Population Reports™

Youth and HIV/AIDS

Can We Avoid Catastrophe?

Today's young people are the AIDS generation. They have never known a world without HIV. Millions already have died. Yet the HIV/AIDS epidemic among youth remains largely invisible to adults and to young people themselves. Stopping HIV/AIDS requires comprehensive strategies that focus on youth.

JHU/CCP

Highlights

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Of the over 60 million people who have been infected with HIV in the past 20 years, about half became infected between the ages of 15 and 24. Today, nearly 12 million young people are living with HIV/AIDS. Young women are several times more likely than young men to be infected with HIV. In nearly 20 African countries 5% or more of women ages 15 to 24 are infected. Such statistics underscore the urgent need to address HIV/AIDS among youth.

Why So Vulnerable?

Physical, psychological, and social attributes of adolescence make young people particularly vulnerable to HIV and other sexually transmitted infections (STIs). Adolescents often are not able to comprehend fully the extent of their exposure to risk. Societies often compound young people's risk by making it difficult for them to learn about HIV/AIDS and reproductive health. Moreover, many youth are socially inexperienced and dependent on others. Peer pressures easily influence them—often in ways that can increase their risk.

Addressing the Epidemic

Recent declines in incidence of HIV/AIDS in a few countries, accompanied by signs that young people are changing their risk-taking behavior, give hope. AIDS today is widely seen as a social crisis as well as a problem of individual behavior. The AIDS epidemic is complex, and thus only a combination of approaches can succeed. It is increasingly clear, however, that youth must be at the center of strategies to control HIV/AIDS.

Building support for AIDS prevention. Until more leaders speak out about the AIDS crisis among youth and give it top priority for funding and action, there is little hope of a solution.

Offering education and communication. Young people need help to become aware of risks for HIV/AIDS and how to avoid them. Education and communication programs must go beyond merely offering information to fostering risk-avoidance skills as well, such as delay of sexual debut, abstinence, and negotiation with sex partners. HIV/AIDS education should begin early, even before children become sexually active.

Addressing cultural and social norms. Many traditions and cultural practices increase risks for young people more than adults and for young women even more than young men. Efforts to involve communities and to change social norms are as crucial as efforts to reduce individual risk-taking.

Promoting condoms for dual protection. Condoms—the only contraceptive method that can protect against HIV as well as against pregnancy—are vital to controlling HIV/AIDS among youth. Condoms should be widely accessible, and their use promoted among sexually active people of all ages.

Making services youth-friendly. To serve young people better, health care providers must do more to make young people feel welcome and comfortable. Services, including treatment of STIs and voluntary HIV counseling, testing, and referral, should be provided confidentially and sensitively.

Reaching out. Programs need to reach out to street children, sex workers, and other vulnerable youth, including the millions of young people orphaned by AIDS. Most programs for youth work better when young people help plan and run them. Programs must also find more effective ways to reach parents and other adults who can influence young people's lives.

Act Now

All countries can and must develop strategies to address HIV/AIDS. The health sector alone cannot overcome this epidemic. Now is the time to act. It is already too late for many youth. Even if HIV risk were cut in half by 2015, in some countries 20% to 80% of today's 15-year-old boys still would die of AIDS. In some places the prospects for youth who survive are declining as teachers and other leaders die of AIDS and as productivity slows. Only acting decisively now to control HIV can ensure that today's young people will have a future as adults.

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The Invisible Epidemic

AIDS—acquired immunodeficiency syndrome—was recognized as a global crisis by the mid-1980s (213). In 1986 the World Health Organization (WHO) estimated that there were 100,000 AIDS cases worldwide and from 5 to 10 million cases of infection with HIV—the human immunodeficiency virus that causes AIDS. Researchers projected that the annual number of deaths due to AIDS would peak in 2006 at 1.7 million (268). Instead, 3 million AIDS deaths were reported for 2001 alone (432).

An estimated total of over 22 million people have already died of AIDS (172). Worse yet, more than 40 million people are living with HIV (432). Thus the number of people now living who will die of AIDS exceeds the number who have already died. The crisis has become a catastrophe.

HIV/AIDS is the fourth largest cause of death globally and the leading cause of death in Africa (413). Despite its widespread reach, the epidemic is still in its early stages. Public health officials estimate that the illnesses and deaths to date represent only 10% of the eventual impact (287, 406). Researchers project that by 2010 HIV/AIDS will reduce average life expectancy in some southern African countries to around 30 years (338).

The Burden on Youth

While not recognized at the onset, the HIV/AIDS epidemic is now clearly worst among youth.* Over a period of 20 years, more than 60 million people have been infected with HIV; half of them became infected between the ages of 15 and 24 (153, 432). An estimated 11.8 million people between the ages of 15 and 24 are living with HIV/AIDS (432). In some African countries more than one young woman in every five is living with HIV/AIDS (see Table 1, next page).

Although young people suffer most from HIV/AIDS, the epidemic among youth remains largely invisible (216), both to young people themselves and to society as a whole. Young people often carry HIV for years without knowing that they are infected. As a consequence, the epidemic spreads beyond high-risk groups to the broader population of young people, making it even harder to control.

Already, AIDS has become generalized among youth in almost half of sub-Saharan Africa. In a generalized HIV epidemic 5% or more of the population are infected (7). In nearly 20 sub-Saharan countries an estimated 5% or more of young women ages 15 to 24 are infected with HIV (162). As each new generation of young people reaches reproductive age, another wave of infection becomes more likely (158).

As the AIDS epidemic spreads, younger and younger age groups are becoming exposed to the risk of HIV (126, 170, 308). Infection spreads to younger age groups as men choose increasingly younger sexual partners. Many men believe, probably correctly, that younger girls are less likely to be infected with HIV, while others hold the mistaken belief that having sex with a virgin can cure AIDS (299, 339, 367).

Reflecting these trends in sexual preferences, young women with HIV are infected on average ten years earlier than men, and, consequently, many will die of AIDS at younger ages than men. As a result of this situation, the US Census Bureau projects, by 2020 there will be more men of reproductive age than women, an imbalance that could lead men to seek even younger women, further increasing HIV infection among adolescent women (338).

** The terms "youth," "adolescents," and "young people" are defined variously. WHO refers to people between the ages of 10 and 19 as adolescents and the larger age group 10 to 24 as young people (409). The three terms often are used interchangeably, a practice that this issue of* ***Population Reports*** *follows.*

Estimated Numbers of Women and Men Age 15–24 Living With HIV/AIDS as of December 2001

Region	Young Women	Young Men	Young People
Africa, sub-Saharan	5,700,000	2,800,000	8,600,000
East Asia & Pacific	87,000	200,000	280,000
South & South-East Asia	930,000	590,000	1,500,000
Latin America	170,000	260,000	420,000
Caribbean	72,000	59,000	130,000
North Africa & Near East	110,000	41,000	150,000
Eastern Europe & Central Asia	85,000	340,000	420,000
North America	47,000	100,000	150,000
Western Europe	33,000	55,000	89,000
TOTAL	7,300,000	4,500,000	11,800,000

Note: Figures are rounded
Source: Joint United Nations Programme on HIV/AIDS (UNAIDS), 2001 (432)

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WORLD AIDS CAMPAIGN 2001

"Stop, listen and learn all you can about HIV/AIDS. Prevention and life— it's your choice!"

Joey DiPaolo, AIDS educator living with HIV

"We must involve young people living with HIV/AIDS in the struggle against the epidemic. They, after all, know best what it means to live with AIDS."

Kofi Annan, Secretary-General of the United Nations

Table 1. HIV Prevalence Among Youth Ages 15–24 Worldwide, End of 1999

Region & Country	Estimated HIV Prevalence (in %) Females	Males
AFRICA, SUB-SAHARAN		
Angola	2.6–2.9	1.1–1.4
Benin	1.6–2.9	0.5–1.3
Botswana	32.6–36.1	13.7–18.0
Burkina Faso	4.1–7.5	1.3–3.3
Burundi	9.9–13.3	3.8–7.6
Cameroon	6.6–8.9	2.5–5.1
Central African Rep.	12.0–16.2	4.6–9.2
Chad	2.6–3.5	1.5–2.3
Congo, Dem. Rep.	4.3–5.8	1.7–3.3
Congo, Rep.	5.5–7.4	2.1–4.2
Côte d'Ivoire	6.7–12.3	2.1–5.5
Djibouti	11.7–16.1	7.0–10.6
Equatorial Guinea	0.5–0.6	0.2–0.4
Ethiopia	10.0–13.8	6.0–9.0
Gabon	4.0–5.4	1.5–3.1
Gambia	1.5–2.8	0.5–1.3
Ghana	2.4–4.4	0.8–2.0
Guinea	1.0–1.9	0.3–0.8
Guinea-Bissau	1.7–3.2	0.6–1.4
Kenya	11.0–15.0	4.3–8.5
Lesotho	23.9–28.9	8.0–16.1
Liberia	1.5–2.8	0.5–1.2
Malawi	14.5–16.0	6.1–8.0
Mali	1.7–2.4	1.0–1.6
Mauritania	0.5–0.7	0.3–0.5
Mozambique	13.4–16.1	4.5–9.0
Namibia	18.8–20.8	7.9–10.4
Niger	1.3–1.7	0.8–1.1
Nigeria	4.4–5.9	1.7–3.3
Rwanda	9.0–12.2	3.5–7.0
Senegal	1.1–2.1	0.4–1.0
Sierra Leone	2.1–3.8	0.7–1.7
South Africa	22.5–27.1	7.6–15.1
Swaziland	25.9–31.2	8.7–17.4
Tanzania	6.9–9.3	2.6–5.3
Togo	3.9–7.2	1.2–3.2
Uganda	6.7–9.0	2.6–5.1
Zambia	16.9–18.7	7.1–9.3
Zimbabwe	23.3–25.8	9.8–12.9
ASIA & PACIFIC		
Cambodia	2.3–4.7	0.9–3.8
India	0.4–0.8	0.1–0.6
Malaysia	0.08–0.1	0.3–0.8
Myanmar	1.1–2.3	0.4–1.7
Thailand	1.5–3.1	0.5–1.9
LATIN AMERICA & CARIBBEAN		
Argentina	0.2–0.3	0.7–1.0
Bahamas	2.4–2.9	3.2–4.6
Barbados	0.8–0.9	1.0–1.4
Belize	0.8–1.0	1.8–2.6
Brazil	0.2–0.3	0.6–0.8
Colombia	0.08–0.1	0.4–0.5
Costa Rica	0.2–0.3	0.5–0.8
Dominican Rep.	2.4–3.1	2.1–3.1
Ecuador	0.06–0.09	0.3–0.5
El Salvador	0.2–0.3	0.6–0.8
Guatemala	0.8–1.0	0.9–1.4
Guyana	2.0–2.6	3.1–4.6
Haiti	2.6–3.3	3.9–5.8
Honduras	1.5–1.9	1.1–1.7
Jamaica	0.36–0.44	0.5–0.7
Mexico	0.05–0.08	0.3–0.5
Panama	1.2–1.5	1.3–2.0
Peru	0.1–0.2	0.3–0.5
Suriname	0.7–0.9	1.1–1.6
Trinidad & Tobago	0.5–0.6	0.7–1.0
Uruguay	0.2–0.3	0.3–0.5
Venezuela	0.1–0.2	0.5–0.8
EASTERN EUROPE & CENTRAL ASIA		
Belarus	0.1–0.2	0.3–0.5
Ukraine	0.6–1.0	1.0–1.6
NORTH AMERICA		
United States	0.2–0.3	0.3–0.8
WESTERN EUROPE		
France	0.2–0.3	0.2–0.5
Portugal	0.2–0.3	0.3–0.9
Spain	0.2–0.3	0.2–0.7
Switzerland	0.2–0.4	0.2–0.5

Note: Table presents only countries with at least 0.5% prevalence for either males or females. Prevalence estimates are expressed as a range generated by UNAIDS regional modeling.

Source: Joint United Nations Programme on HIV/AIDS (UNAIDS), 2000 (162) **Population Reports**

Statistics from the Joint United Nations Program on HIV/AIDS (UNAIDS) indicate the scope of the catastrophe among youth:

- In 1998, the date of the most recent estimate of new infections, over 2.5 million young people ages 15 to 24 became infected with HIV (153)—half of all new HIV infections that year (169).
- Every day over 7,000 more young people become infected—about five per minute (153, 154, 165).
- Worldwide, people ages 15 to 24 account for about 30% of all people living with HIV/AIDS (432).

Such numbers underscore the urgency of addressing HIV/AIDS among youth. Youth comprise about one-fifth of the world's population (363). They comprise an even greater part of many developing countries' populations—nearly two-fifths where fertility rates are highest (295).

Young people are particularly vulnerable to HIV/AIDS because of the physical, psychological, social, and economic attributes of adolescence (70, 271, 284, 327, 422). Many adolescents are economically dependent and socially inexperienced, have not been taught or have not otherwise learned how to protect themselves from infection, and generally have less access to health care than adults (154, 158, 410).

Culture and society have powerful effects on behavior and often increase young people's vulnerability to HIV/AIDS (see p. 12). Adolescents often are not able fully to comprehend the extent of their exposure to risk and the potentially dangerous results.

Regional and national differences. The prevalence of HIV/AIDS among young people varies widely among regions and countries. Sub-Saharan Africa faces the worst prospects. Although just 10% of the world's youth live in sub-Saharan Africa, the region contained almost three-quarters of all youth living with HIV/AIDS in 2001—a total of 8.6 million (153, 432).

There are substantial differences in HIV prevalence among African countries. Botswana has the highest proportion of infected young people—at least one-third of women ages 15 to 24—while other countries of southern Africa are close behind (see Table 1). In contrast, HIV prevalence is low in West Africa.

Within Asia and the Pacific, Cambodia, Myanmar, and Thailand have the highest infection rates—the only countries in the region with HIV prevalence greater than 1% among youth. In Latin America and the Caribbean prevalence of HIV varies widely. The Caribbean has some of the most serious AIDS epidemics outside sub-Saharan Africa. In the Bahamas, Dominican Republic, Guyana, and Haiti, at least 2% of young women are infected with HIV.

In Eastern Europe and Central Asia, HIV prevalence is relatively low. Only in Ukraine are over 1% of young men ages 15 to 24 infected. The epidemic appears to be spreading rapidly among young people, especially from unsafe drug injecting. If HIV spreads from drug users into the general population, prevalence probably will rise rapidly (162). Similarly, in North Africa and the Near East, HIV infection among young people is rare (153). Nevertheless, injection drug use may soon cause a wave of infections in the region (171) and thus portend an increase in overall HIV infection rates among youth.

Only a few industrialized countries, including the US, have infection rates of 0.5% or higher. These countries had a combined total of about 240,000 youth living with HIV/AIDS in 2001, 2% of the world total (432).

Differences within countries. National statistics often conceal large differences in the HIV/AIDS epidemic within countries. Cities generally have higher HIV prevalence than rural areas (223). In Zambia, for example, women ages 15 to 19 in Lusaka, the capital city, are three times more likely to be infected than young women in rural areas (93). In time, however, movement of people between rural and urban areas could narrow such differences (223, 389).

HIV/AIDS statistics for the general population can also conceal dramatic difference among groups. For example, in the northeast parts of India, HIV appears confined to drug-injecting men and their sexual partners. In the southern and western states, however, it has moved beyond this group into the general population (153).

Gender differences. Gender differences in patterns of HIV infection among young people vary substantially around the world. Where heterosexual transmission of HIV dominates, often more young women are infected than young men (see p. 7). In most of Africa infection rates among young women are at least twice the rates among young men (162) (see Table 1).

In certain regions adolescent women are as much as six times more likely than adolescent men to be infected (162). In some parts of Kenya and Zambia, for instance, teenage women have HIV prevalence rates of 25% compared with 4% among teenage men (171, 339). In Botswana about one-third of women ages 15 to 24 are estimated to be HIV-positive, twice the proportion among men the same age (162). A similar gender imbalance occurs in the US (373).

Where the HIV epidemic is widespread among injecting drug users, as in Australia, New Zealand, Europe, and Central Asia, most cases occur among young men, because young men are more likely than young women to use drugs (171). In China in the mid-1990s infected adolescent men between ages 16 and 19 outnumbered infected adolescent women nine to one (419).

Among young men in industrialized countries, sexual transmission of HIV is predominantly through men having sex with other men. For example, in the US in 1999 half of the AIDS cases in men ages 13 to 24 were among those who had sex with other men (373).

Economic and social differences. HIV spreads fastest and farthest in conditions of poverty, powerlessness, and lack of information (53, 223)—conditions in which many young people live. In fact, AIDS is now largely a disease of marginalized peoples (226, 395). Worldwide, the AIDS epidemic is most severe in the poorest countries (171). Within countries, the disadvantaged—people with few opportunities, services, and support systems—are at greatest risk (see p. 13). Among youth as well, HIV disproportionately affects the poor and the marginalized (283).

In sub-Saharan Africa AIDS first appeared to be a disease of wealthy men who could afford to travel, to have multiple sex partners, and to pay for sex. As the epidemic has spread, however, HIV has become far more widespread among the poor. The pattern is similar in Asia (395).

In the US HIV/AIDS was first reported among relatively wealthy white adult men who had sex with men. The epidemic has now migrated to less priviledged groups, however. In fact, AIDS has become the leading cause of death among African Americans ages 25 to 44 (373).

Strategic Focus on Youth

No one strategy against AIDS can apply everywhere; the approach in each country should reflect the epidemiological patterns of the infection (7). Nevertheless, because most HIV infections occur during adolescence, focusing on young people appears to be a crucial strategy.

Based on simulation models, in a hypothetical African country with HIV prevalence of 10% in the general population, focusing on preventing HIV among adolescents would be more effective than focusing on high-risk populations—defined in this case as people having sex with more than one partner in the past six months. A combined focus on young people *and* on high-risk groups would be most effective, the models suggest—at only 20% of the cost of a full-scale national campaign against AIDS (345).

Another reason to focus prevention efforts on youth is that HIV-positive youth, because they were recently infected, are highly infectious. HIV is most infectious when viral loads in the blood are high, resulting in HIV shedding in many body fluids. Normally, there are two such periods: The first period, the primary infection, occurs immediately after HIV infection and lasts only a few months. The second period is at the end, when HIV infection progresses to AIDS (11, 46, 312). Because adolescents are likely to have been recently infected, many are at the primary, most infectious stage, where behavior change could be especially effective at reducing further HIV transmission (46, 312).

Preventing HIV infection among youth also would help reduce the mounting cost of treatment, providing resources that could help meet other needs of young people. For instance, in India the cost of treating one AIDS patient for one year, even without expensive therapies, equals the annual cost of providing primary school education for 10 students (266).

Early action against HIV/AIDS is far more effective than delayed action. One estimate is that an AIDS-prevention program begun 10 years ago would have had 60% more

Reproductive Health Association of Cambodia (RHAC)

Young people excitedly crowd the stage following an entertaining educational event organized by the Cambodian Reproductive Health Association. While no single strategy against HIV/AIDS can apply everywhere, focusing on youth is crucial, especially if efforts begin right away, because most HIV infections occur during adolescence.

HIV Transmission from Mother to Child

Nearly 5 million children have died from AIDS before reaching age 15 since the onset of the epidemic, and an estimated 2.7 million children are living with HIV. Another 800,000 were infected in 2001 alone—about 90% in sub-Saharan Africa (432).

The overwhelming majority of children with HIV were infected from their mothers, during pregnancy, childbirth, or breastfeeding. Prevention of mother-to-child transmission of HIV is now a high priority of HIV/AIDS programs. Without treatment, rates of transmission from mother to infant are between 15% and 20%, according to European and US studies. Breastfeeding can lead to an additional 10% to 20% risk of HIV transmission, based on studies in Africa (415).

Breastfeeding?

Debate continues about whether and when to recommend breastfeeding versus bottle feeding, especially in countries where poor sanitation makes bottle feeding risky. UN agencies now recommend that bottle feeding starting at birth may be a safer choice than breastfeeding for a mother who is infected with HIV—but only if it is nutritionally adequate and safely prepared and given, and if an uninterrupted supply of alternative foods is available (415).

Recent studies, however, suggest that infants who are exclusively breastfed up to three months might have less risk of getting HIV from their mothers than those who receive other fluids and foods in addition to breast milk (428, 438). One explanation is that the immune factors of breast milk protect infants from HIV but that contaminants in other fluids and foods counteract this benefit by damaging the infant's stomach (428). If confirmed by further research, these studies suggest that exclusive breastfeeding up to three months could present an alternative to HIV-positive mothers who want to breastfeed their infants. Many prefer to avoid bottle feeding because of the stigma associated with it—an admission in some communities that one has HIV—and because the price of formula feeding may be too costly.

"Don't allow your child to be born with the AIDS virus...Get tested," says this poster from Mexico. Mother-to-child HIV transmission is a growing problem.

What Can Be Done?

WHO recommends a three-sided strategy to prevent transmitting HIV from mother to child. The first is to prevent the mother's infection, especially among young women. The second is to prevent unintended pregnancies among HIV-positive women, and the third is to expand access to antiretroviral therapies.

Education programs can reduce transmission from mother to child by helping young people understand and avoid the risks of HIV infection and pregnancy. These programs can reach youth in schools, preferably before onset of sexual activity. Family planning programs can do more to help women with HIV avoid unintended pregnancy. Young women who are contemplating pregnancy should consider being tested for HIV. For young pregnant women who are infected with HIV, a health care provider should discuss feasible feeding options.

Where available, the antiretroviral drug Nevirapine, which has been shown to reduce the risk of transmission by nearly 50%.(416), should be made available. The use of such antiretroviral drugs to prevent transmission of HIV between mother and child has been intensely studied. In developed countries the combined use of antiretroviral drugs, elective cesarean sections, and bottle feeding from birth has reduced the risk of HIV transmission from infected mother to child to less than 2% (415).

impact on HIV prevalence than the same program begun today (345). In particular, addressing HIV/AIDS among youth earlier rather than later could do much to stem the spread of the epidemic.

Delegates at the 2001 United Nations General Assembly Special Session on HIV/AIDS resolved to "reduce by 2005 HIV prevalence among young men and women aged 15 to 24 in the most affected countries by 25% and by 25% globally by 2010" (166). Reaching this ambitious goal will require much greater efforts.

The health sector alone cannot hope to contain the HIV/AIDS epidemic, nor can individual AIDS-prevention programs, working alone—although any and all efforts help. Only a large-scale, coordinated strategic approach, involving national governments, local communities, and the private sector, with international support, holds real hope.

How Young People Become Infected

Young people, like adults, contract HIV primarily in three ways—through men and women having sex, through men having sex with men, and through intravenous drug injecting (158). Having other sexually transmitted infections can increase the odds of contracting HIV/AIDS during sex with an infected person from two- to eightfold (96, 126, 148, 173).

HIV can also be transmitted from a woman to her baby, during pregnancy, birth, or through breastfeeding (see box). While the first generation of babies infected by mother-to-child transmission would now be adolescents, the proportion of such infants still living is probably small (274).

Other means of transmission account for only a small proportion of infections. These include transfusion with infected blood and activities that can break the skin with unsterilized equipment (359).

Heterosexual Activity

HIV/AIDS has brought a new examination of what "having sex" means, especially among young people. How young people define "having sex" is important because it helps determine whether they consider themselves to be at risk, how they respond to HIV-prevention efforts, and how they report sexual experience in surveys.

Surveys generally have considered people as sexually active only if they are having vaginal intercourse. Sexual behaviors such as anal intercourse, however, are not linked to pregnancy but do pose a risk of HIV/AIDS and other STIs. In fact, heterosexual anal intercourse is common (110). The few studies that have examined what young people themselves think have found considerable differences in what is considered to constitute sex (30, 44, 128, 195, 301, 303, 317, 325).

Nevertheless, many young people report sexual activity (see Table 2). Young men surveyed are more likely than women to report sexual experience. Many young women are not sexually active; in fact, in only four countries surveyed—Canada, Côte d'Ivoire, Togo, and the United States—do more than one-half of 15-to-19 year old women report any sexual experience. Also, in countries where data are available, young men are more likely than women to have multiple sex partners (see Figure 1, next page).

In some places sexual activity among unmarried young people has decreased in recent years. In Lusaka, Zambia, for example, 35% of unmarried women in 1996 reported that they were sexually active compared with 52% in 1990 (162). In Tamil Nadu, India, the proportion of young men who reported sex with casual partners declined from nearly 50% in 1996 to 30% in 1998 (162). In Uganda the average age at first sex among adolescents in urban areas has risen by two years—a change perhaps responsible for the 33% decline in HIV prevalence among pregnant women ages 15 to 19 (14).

Young women face substantial risk. The risk of becoming infected with HIV during unprotected sex is two to four times greater for a woman than for a man (7, 171, 312). Male-to-female transmission is more likely because during vaginal intercourse a woman has a larger surface area of her genital tract exposed to her partner's sexual secretions than does a man. Also, HIV concentration is generally higher in a man's semen than in a woman's sexual secretions (203, 388).

Adolescent women are at even greater risk than adult women. The vagina and cervix of young women are less mature and are less resistant to HIV and other STIs, such as chlamydia and gonorrhea. Changes in the reproductive tract during puberty make the tissue more susceptible to penetration by HIV. Also, hormonal changes associated with the menstrual cycle often are accompanied by a thinning of the mucus plug, the protective sealant covering the cervix. Such thinning can allow HIV to pass more easily. Young women produce only scant vaginal secretions, providing little barrier to HIV transmission (22, 140, 141, 250, 289). As more studies of HIV infection include women as well as men, they are finding that, for unknown reasons, women get sicker at a lower viral load than men (79, 377).

Table 2. Sexual Activity Among Unmarried Youth Ages 15–19, Surveys 1991–1999

Region, Country, & Year of Survey	% of Unmarried Youth Who Have Had Sex in the Four Weeks Before the Survey		% of Unmarried Youth Who Have Ever Had Sex	
	Females	Males	Females	Males
AFRICA, SUB-SAHARAN				
Benin 1996	13	—	35	—
Burkina Faso 1999	12	11	23	27
Cameroon 1998	20	21	42	46
Cape Verde 1998	17	26	37	63
Central African Rep. 1994	17	25	32	49
Comoros 1996	3	19	8	37
Côte d'Ivoire 1994	26	—	57	—
Eritrea 1995	0	1	1	2
Ghana 1998	10	7	27	18
Kenya 1998	9	24	37	54
Madagascar 1997	15	—	35	—
Mozambique 1997	20	26	42	64
Namibia 1992	17	—	38	—
Rwanda 1992	1	—	7	—
Tanzania 1996	15	26	32	40
Togo 1998	20	13	51	98
Uganda 1995	7	10	29	42
Zambia 1996	13	28	44	66
Zimbabwe 1994	3	9	14	32
ASIA & PACIFIC				
Indonesia 1997	*	—	1	—
Nepal 1996	*	—	1	—
Philippines 1998	0	—	2	—
LATIN AMERICA & CARIBBEAN				
Belize 1991	7	—	27	—
Bolivia 1997	2	16	13	38
Brazil 1996	10	23	24	63
Colombia 1995	5	—	19	—
Costa Rica 1992	6	—	15	—
Dominican Rep. 1996	2	12	9	48
Ecuador 1999	2	—	10	—
El Salvador 1998	2	—	13	—
Guatemala 1999	**	—	7	—
Haiti 1994	6	20	20	46
Honduras 1996[1]	2	12	15	58
Jamaica 1997	11	—	37	74
Nicaragua 1997	0.4	21	6	55
Paraguay 1998	2	—	23	—
Peru 1996	3	18	13	45
Puerto Rico 1996	6	—	17	—
EASTERN EUROPE & CENTRAL ASIA				
Czech Republic 1993	—	—	36	—
Georgia 1999	*	—	**	—
Kazakhstan 1999	5	15	12	33
Kyrgyz Republic 1997	0.4	—	2	—
Moldova 1997	3	—	11	—
Romania 1999	6	—	11	45
Ukraine 1999	15	—	24	—
NORTH AMERICA				
Canada 1996	—	—	51	42
United States 1995	—	—	51	56

[1] *Honduras male data available only for ages 15–24*

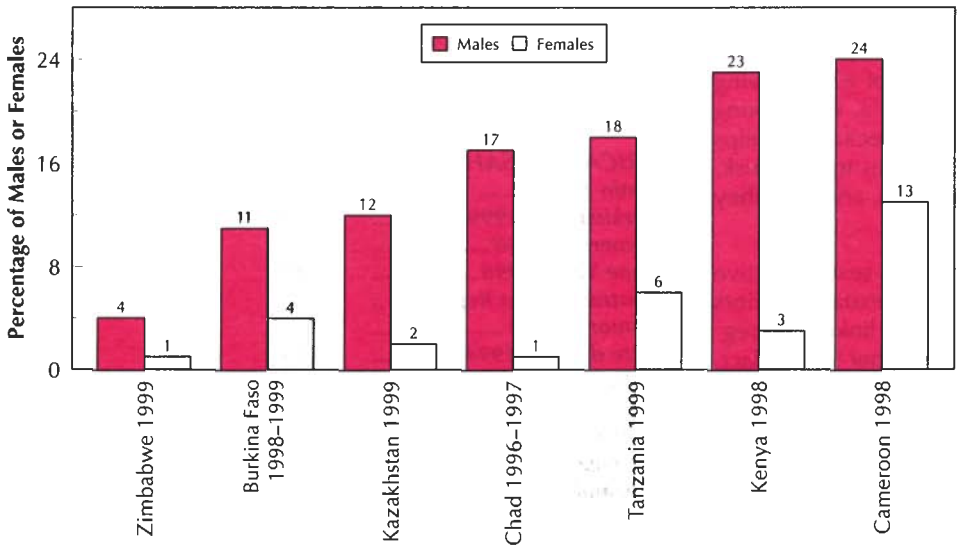
**Fewer than 25 respondents* ***Fewer than 0.5% had sex* —*Not available*

Sources: Demographic and Health Surveys, 1992–1999; US CDC Reproductive Health Surveys, 1991–1999; Frost, 2001 (431); and Maticka-Tyndale, 2001 (435)

Population Reports

Figure 1. Multiple Partners

Percentage of Unmarried Youth Ages 15–19 Who Have Had Two or More Sex Partners in the Past Year, Selected Countries*



*Among all youth, both sexually active and inactive

Source: Demographic and Health Surveys, 1996–1999

Population Reports

Same-Sex Relationships

In the industrialized world an estimated 70% of HIV transmission occurs among men who have sex with men. UNAIDS estimates that 5% to 10% of all HIV cases worldwide are due to transmission of the infection between men (157).

Adolescence can be an especially difficult period for young men and women who are exploring their sexuality by experimenting with same-sex relationships as well as heterosexual ones (382). Many young people have heterosexual relationships during their early teenage years before later identifying themselves as lesbian or homosexual (314). Young men who have sex with other men are often forced into clandestine arrangements to keep their sexual orientation secret (60).

A Russian-language poster graphically warns that injection drug use carries the risk of death by transmitting HIV/AIDS.

In many countries openly homosexual, or "gay," communities are rare or even nonexistent. In nearly every country, however, men have sex with other men (including penile-anal and penile-oral sex) even if they do not consider themselves to be homosexual or gay or if others do not consider them so (155, 157, 162, 247). The phrase "men who have sex with men," as opposed to "homosexual men," has been coined and used widely to reflect this fact.

While research findings are scarce on same-sex partnerships among adolescents in developing countries, especially where HIV prevalence is highest, data from the US suggest that young men in same-sex relationships are at substantial risk. According to the US Centers for Disease Control and Prevention (US CDC), 50% of all AIDS cases reported in the US in 1999 among males 13 to 24 years of age involved men who have sex with men (373). Although in the US rates of HIV infection appear to have declined among adult men who have sex with men, infection rates appear to have risen among young men who have sex with men, especially among minorities (374). Because many young men who have sex with men also have sex with women, they can introduce HIV to the larger population (10, 24, 55, 157, 160).

While the biological risk of HIV transmission through female-to-female sex is thought to be low, the US CDC advises women who have sex with women to take precautions such as the use of latex gloves and dental dams to reduce contact with a partner's bodily fluids (316, 371). Because HIV can be found in genital secretions, menstrual blood, and breastmilk, exposure to these fluids during female-to-female sex could lead to infection. Moreover, on average, women who have sex with women have more sex partners than women in the general population and engage in injected drug use more (81, 343).

Drug Injecting

Injection of drugs using needles contaminated with HIV plays a key role in spreading AIDS among young people, especially young men. Drug injection transmits HIV readily because it introduces the virus directly into the blood stream. In some countries—including Argentina, Bahrain, Georgia, Iran, Italy, Kazakhstan, Portugal, and Spain—over half of all AIDS cases involve drug use. Also, in Canada, China, Latvia, Malaysia, Moldova, Russia, Ukraine, and Vietnam, more than half of all new infections in 1998–1999 were among intravenous drug users (162). In Asia drug injection is leading to explosive growth of HIV infection in several countries. For example, in Kathmandu, Nepal, over half the injection drug users have HIV, up from less than 1% in the early 1990s (247).

Many injection drug users are young. The average age for starting drug use has dropped as the supply of illicit drugs has grown (412). For example, in the US the highest rate of illicit drug use is among people ages 18 to 20 (368). A person's first drug injection can be particularly risky, since the new drug user is likely to lack equipment and to need help with injection—often sharing contaminated equipment (354).

Other Means of HIV Transmission

People receiving blood transfusions can become infected with HIV when the blood is contaminated. In fact, biologically, blood transfusion with contaminated blood is the most efficient way of transmitting HIV since large quantities of the virus are directly infused into a person's body (312). In the early years of the epidemic in the US, people with hemophilia and coagulation disorders made up the largest number of adolescents with HIV, which was acquired primarily by receiving contaminated blood products. Now that blood can be tested, the proportion of young people infected this way is minimal (100).

In most high-income and middle-income countries, routine screening of donated blood for HIV antibodies has greatly reduced the risk of infection from blood transfusions or blood products. In low-income countries, however, where donated blood is not always tested for HIV, blood transfusions continue to transmit HIV (7, 78). Where blood is not routinely tested for HIV, young women may be particularly at risk of infection if they receive transfusions during childbirth (78).

HIV and Other STIs

The presence of STIs makes transmission of HIV more likely (42, 52, 73). Sexually active youth are at substantial risk not only for HIV but also for other STIs because they tend to have multiple sex partners, to engage in unprotected sex, and—among young women—to have older men as sex partners (232, 312, 372). In many countries young people have the highest rates of STIs of any age group (282, 372).

Having another STI both makes HIV-positive persons more infectious and makes HIV-negative persons more susceptible to infection. Some STIs increase the replication of HIV (141, 300, 351). In addition, the lesions and ulcers caused by STIs provide openings through which HIV can pass from person to person (8, 52, 126). The presence of STIs also increases the presence of CD4 lymphocyte cells in the genital tract. These lymphocytes carry HIV (208).

STIs can increase by more than 100-fold the amount of HIV shed into genital secretions (418), thereby raising the probability that the secretions will contain enough HIV to cause infection (204, 312). Thus, while the risk of HIV transmission is normally higher from men to women, in the presence of STIs in either partner the likelihood of transmission is just as likely from women to men as from men to women (126).

Treating STIs could help to curb the HIV epidemic in some places (96, 126, 227, 280). As with HIV/AIDS prevention, the earlier STI prevention begins, the better. For example, in Mwanza, Tanzania, treating STIs reduced the incidence of HIV infection by 40% over two years (106). But in Rakai, Uganda, which had a similar STI treatment program, treating STIs had much less effect on HIV incidence (390). The primary explanation of this difference is timing. In Mwanza treatment took place early in the epidemic, when HIV prevalence was 4%, whereas in Rakai HIV prevalence already had reached 16% (105, 278). Because adolescents are, in effect, in the early stages of the epidemic, like the Mwanza population, treating STIs among them could substantially reduce HIV transmission (126, 227).

Why So Vulnerable?

Young people are much more vulnerable to HIV/AIDS than older people are. Because their social, emotional and psychological development is incomplete, they tend to experiment with risky behavior, often with little awareness of the danger. In fact, risky sexual behavior often is part of a larger pattern of adolescent behavior, including alcohol and drug use, delinquency, and challenging authority (75).

At the same time, some researchers caution against a simplistic view of adolescents as "vulnerable" or "at risk." Such a perspective can cloud understanding of young people's situation, they argue, because young people are not a homogenous group and, moreover, can act for themselves (155).

Nevertheless, most young people have only limited knowledge about HIV/AIDS—largely because societies make it difficult for them to obtain information. Frequently, social policies reflect intolerance and discrimination against youth, as when they limit access to health information and care (127). Because adolescents are in a period of transition, in which they are no longer children but not yet adults, public health responses to their needs are often conflicting and confused (223). At the same time, social norms and expectations, along with peer opinion, powerfully affect young people's behavior, often in ways that increase their health risks.

Adolescent Behavior Increases Vulnerability

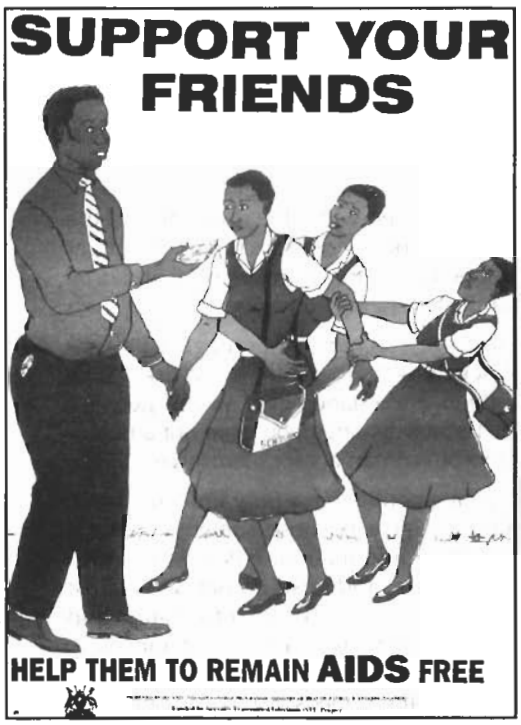
Why does adolescence increase vulnerability to HIV/AIDS? Adolescence is a period of unpredictable behavior (70, 284, 354). Lacking the judgment that comes with experience, adolescents often cannot appreciate the adverse consequences of their actions.

The risks of HIV/AIDS may be particularly hard for young people to grasp. Because HIV has a long incubation period, a person's risky behavior does not have immediately apparent consequences. At the same time, the potential social costs to a young person of preventing HIV infection—including loss of the relationship, loss of trust, and loss of peer acceptance—can be too high a price for most adolescents to bear (393). Moreover, many young people are unaware of what constitutes risky sexual behavior (357, 392).

Even if they appreciate the risks for HIV/AIDS in general, many adolescents believe that they are invulnerable themselves. For example, in Tanzania only 26% of male students interviewed felt that they were at "high risk" for HIV/AIDS, even though 48% felt that their friends were at high risk (225).

JHU/CCP

Many adolescents experiment with risky behavior such as smoking, often unaware of the potential adverse consequences.



Uganda Ministry of Health

This poster from Uganda urges young women to help friends avoid relationships with older men—"sugar daddies"—who might infect them.

Such findings reflect the distorted sense of invulnerability to HIV/AIDS that many young people have (127). This feeling leads many young people to ignore the risk of infection and thus to take no precautions (53, 283, 352). Of course, many adults also take risks and do not consider themselves to be vulnerable.

Cognitive maturity appears to be associated with safer sexual behavior. In Kenya and Zambia, for example, young women with high academic achievement are more likely to use contraceptives (186, 218). In Mozambique more schooling was associated with more use of condoms (162). In Uganda young women with secondary school education exhibited the most dramatic declines in HIV prevalence from 1991 to 1997 (181).

Even where the prevalence of HIV/AIDS is high, as in South Africa, some young people do not consider themselves to be at risk, while others have said in focus-group discussions that, if they became infected, other people would be responsible, not they themselves (217). Some youth even question the existence of AIDS (381). In Zimbabwe, where the national prevalence of HIV among young women is over 23%, more than half of young women interviewed said they were not at risk for HIV/AIDS (361).

Even when they know the risk, some young people may ignore it. Young women may engage intentionally in risky sexual behavior especially in cultures where marriage is highly valued and a woman's status depends on finding a husband and having children (43, 297). In some parts of Cameroon competition for eligible men is keen. Thus young women who face the threat of being displaced by other girlfriends may engage in unprotected sexual intercourse to bolster their chances of marriage (238). In parts of Asia young women may become sex workers because they receive higher pay than in many other occupations (56, 202).

Some young people even continue unsafe sexual behavior after being diagnosed with HIV (257). In the US, researchers found that adolescents who were infected with HIV were twice as likely as infected adults to engage in such high-risk behavior as having unsafe sex and sharing needles for intravenous drug use (64).

Other risk-taking behavior and HIV. For many adolescents, experimenting with tobacco, alcohol, sex, and drugs are rites of passage. The propensity to take risks applies to all sorts of risks. In Tanzania, for example, youth ages 16 to 24 who smoked and drank alcohol were four times more likely than others that age to have multiple sex partners (225). In Kenya the single most important predictor of sexual activity among adolescent women was using alcohol, drugs, or tobacco (189). Studies from Puerto Rico, the mainland US, and elsewhere report similar findings (251, 305). Risky behaviors are also directly linked. For example, among US college students, those who had sex under the influence of alcohol or drugs were 2.5 times more likely not to have used any protection (273).

Anxiety and embarrassment. Many young people are anxious and embarrassed about sex—in part because many societies themselves are anxious and embarrassed about it (18, 393). Even young people who know how to protect themselves from HIV/AIDS often lack the social skills to do so (20, 384). Anxiety and apprehension often prevent young people from using condoms because condom use requires their sex partner's awareness and cooperation.

Many people are afraid to ask their partner's sexual history for fear they might endanger the relationship (95). Thus they prefer to consider themselves "safe" rather than face the discomfort of taking steps to ensure their safety (381). At the same time, however, many say they would be relieved if the partner brought up the issue of protection (122, 214).

Some young people, especially women, are at risk for HIV/AIDS because they have a poor self-image (271) or are uncomfortable with their sexuality (32). Often, young people do not believe that they can control their sexual or contraceptive behavior. They deny that they need contraceptives or exaggerate the difficulty of obtaining them (344). Many avoid decisions about self-protection altogether (32). Denying risk is a common way that people cope with stress (34). Adolescents who deny their personal risk of HIV/AIDS can ignore AIDS-prevention messages, dismiss their relevance, or think that they do not bear responsibility for protection (20).

Peer opinion. Most young people are keenly sensitive to peer opinion. Especially among older adolescents, perceptions of what peers think often have a greater influence on sexual and other risk-taking behavior than the opinions of parents and other adults (94, 239, 261). Studies in the US and elsewhere have shown that the sexual behavior of friends influences young people's own sexual behavior (356, 386). When adolescents believe that their peers think that unprotected sex is not risky, then they are more likely to have unprotected sex themselves (32).

In Kenya adolescent men whose friends were sexually active were seven times more likely to be sexually active themselves (189). In Uganda young men report that peers pressure them to "prove that you are a man" (134). And one South African young man said, "It is not enough to get her to fall in love with you. You must be able to show your friends that you have slept with her" (381). Young women can also experience pressure. In South Africa adolescent females say that their peers will ridicule a person who fails to hold onto a relationship because she refused sex (297).

Lack of Information

Many adolescents are at risk because no one—including parents, educators, counselors, health care workers, or the media—has taught them about HIV/AIDS or about how to protect themselves and others. Despite over 15 years of

international recognition of the need for education and communication to prevent HIV/AIDS, young people today still have only limited opportunities to learn about the virus and the disease.

Some adults still think that sex education encourages sexual experimentation. Consequently, programs and campaigns often are limited in what they can discuss. For example, educators at the University of Cairo in Egypt had to alter their program "so as not to be accused of immoral propaganda" (72).

Despite such worries, reviews of program evaluations find that HIV/AIDS education programs do not hasten the start of sexual activity, do not increase the frequency of sex, and do not increase the number of sex partners among adolescents. In fact, some programs that included discussion of contraception delayed the onset of sexual activity and increased the likelihood of condom use (107, 108, 191).

While the importance of education about HIV/AIDS is widely recognized, 44 of 107 countries studied recently did not include AIDS education in their school curricula (295). In interviews with 277 secondary school principals in South Africa, 60% acknowledged that their students were at moderate or high risk of HIV/AIDS, but only 18% of the schools offered a full sex education curriculum (292).

At the same time, traditional ways of educating the young about sex have diminished or disappeared altogether. For example, in many sub-Saharan countries Christian missionaries discouraged initiation rites that defined the passage from youth to adulthood (205). As a result, opportunities for telling young people about sex, traditionally a part of those rites, were lost (186). The social bonds and traditions that used to shape young people's behavior and help them make the transition to adulthood have weakened in the face of urbanization, new attitudes toward sexuality, and the breakdown of the extended family.

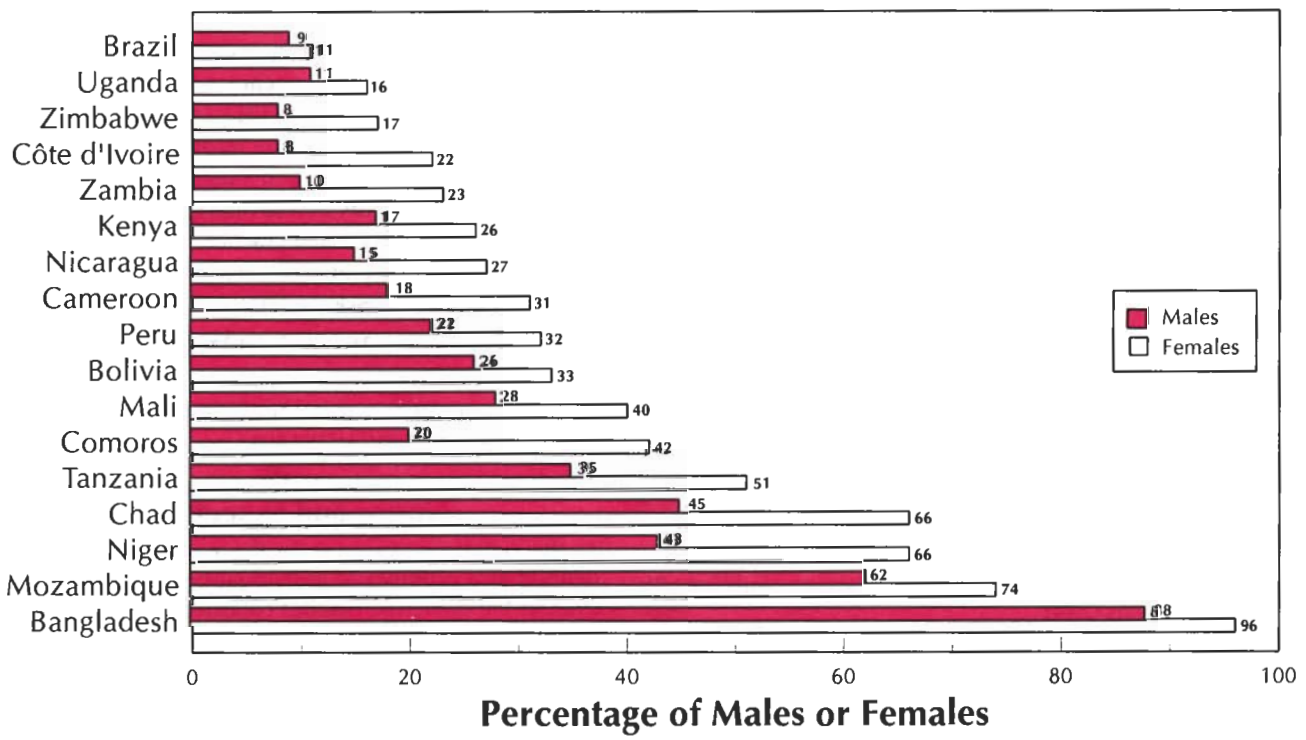
As a result, more young people are sexually active but without adequate information to protect themselves. In Cameroon, Côte d'Ivoire, Kenya, Tanzania, and Zambia—countries where HIV/AIDS is now epidemic among adolescent women—the Demographic and Health Surveys (DHS) in the mid-1990s found that 20% to 50% of young women did not know any way to protect themselves (see Figure 2). In Mozambique, where an estimated 15% of young women have HIV (162), 74% of young women and 62% of young men could not name a single way of protecting themselves.

Young women are far less knowledgeable about HIV than are young men (see Figure 2). For instance, in five countries surveyed the percentage of young women who know a way to protect themselves against HIV is only half that of young men (361). Moreover, young women often hesitate to challenge misinformation from their partners lest they appear too knowledgeable about sex (393).

When young people do know something about HIV/AIDS, their knowledge is often shallow. For example, when students in Papua New Guinea were asked how to protect against HIV, 27% said that it was enough to get to know a partner first or to make sure that their partner had not had sex in the previous six months (92). Similarly, many young people do not know that a healthy-looking person can have HIV. In some countries where AIDS is widespread, such as Lesotho and South Africa, 50% to 75% of women ages 15 to 19 do not know that a person with HIV may look healthy (45, 361).

Figure 2. Information Gap

Percentage of 15–19 Year-Olds Who Do Not Know Any Way To Protect Against HIV/AIDS



Source: United Nations Children's Fund, 2000 (361), based on Demographic and Health Surveys, 1994–1999 ***Population Reports***

How Culture Can Hurt

Around the world a variety of cultural practices and traditions increase young people's risk for HIV/AIDS. For the most part, these practices and traditions affect young people more than adults—and affect young women even more than young men.

Women's Status

In many societies women are expected and taught to subordinate their own interests to those of their partners. With such expectations, young women often feel powerless to protect themselves against HIV infection and unintended pregnancies. Often, adolescent girls endure sexual coercion and abuse. In Kenya 40% of sexually active female secondary school students said that they have been forced or tricked into sex (3). In Cameroon 40% of female adolescents reported that their first intercourse was forced (313). Young women sometimes give in to having sex for fear that, if they refuse, they will be raped anyway (205).

Wife abuse is widespread. In some countries more than 40% of women have been assaulted by their partners (119). Gender-based violence is closely linked to HIV/AIDS (220). In Rwanda, for example, HIV-positive women with an HIV-positive partner were more likely to report sexual coercion in their relationship than were women without HIV (380). In Tanzania partner violence was 10 times higher among young HIV-positive women than HIV-negative women (220). Many women do not dare even to bring up the topic of condoms for protection against HIV infection for fear that they will be physically abused (381).

Marriage Practices

In many cultures the premium placed on having children often leads to childhood marriage and early childbearing. Girls as young as age 10 are given to older men in marriage in order to cement friendships and economic ties between families. When girls are married to older men, they can be vulnerable to HIV infection because their husbands usually have already had a number of sexual partners. Social, political, and religious barriers often hide young wives from the world (423), while their husbands frequently have other sexual partners (12).

Polygyny, the practice of a man having multiple wives, occurs in some countries. In Africa, when the husband seeks a new, often younger, wife, he may have sexual contact with a number of women in the process and thus risk bringing HIV home (7, 12, 41). In some cultures wife inheritance is practiced—a tradition in which a wife is given to her brother-in-law upon her husband's death. Thus either partner can be at risk of HIV infection if the other is infected. Younger widows are at particular risk because they are more likely to seek and be sought by other sex partners (6, 277, 321).

In some societies payment of bridal dowry is necessary when a man and woman marry. In parts of Africa the man pays the dowry to the woman's family. Once the marriage is sealed with the dowry, the woman is considered "paid for" and often cannot leave her husband, should marital problems ensue. Even if her husband's behavior places her at risk of HIV infection, the woman may not be able to protect herself (119).

Rites of Passage

Cultural rites of passage from childhood into adulthood, although traditionally serving to unite communities, can increase risks for HIV. For example, traditional male or female circumcisions are sometimes carried out using unsterilized equipment. Researchers think that male circumcision reduces risks for HIV transmission by removing part of the foreskin that is particularly vulnerable to HIV (see related box, p. 14). In some communities, however, circumcision ceremonies often are accompanied by post-initiation sexual experimentation, which increases risks for HIV (174, 350). For example, among the Maasai of East Africa the relationship among male peers is so close that, after circumcision, the initiates share wives and girlfriends (350).

Sexual Practices

Some sexual practices such as dry sex—the insertion of foreign objects to dry the vagina or to make it tighter—can cause cuts and scratches that create openings for HIV to pass through (321). Other practices, such as virginity testing of women, may place such a high premium on chastity before marriage that unmarried women practice anal sex instead, putting themselves at even greater risk for HIV/AIDS than if they had vaginal sex (341).

Many adolescents incorrectly think that HIV/AIDS can be transmitted in ways unrelated to known risks. In Papua New Guinea, for example, one-third of tenth grade students thought incorrectly that a person could get HIV from a mosquito bite, and 15% thought sharing a drinking glass could cause HIV infection (92). In Trinidad 16% of secondary students thought incorrectly that a person could get HIV from toilet seats (244).

Misinformation about HIV transmission contributes to negative attitudes about people living with HIV/AIDS. In Russia 40% of male high school students and 30% of female students said they "would not like to be in the same class as a person with AIDS" (215). In Scotland nearly 34% of adolescent men and 22% of women would feel uncomfortable if their teacher had HIV/AIDS (353).

Norms and Expectations

At the outset of the crisis in the early 1980s, AIDS was defined as a problem of individual behavior. Today, however, as the epidemic reaches catastrophic proportions, it is widely recognized as an enormous social crisis as well. Social norms and expectations and community attitudes and policies toward the roles and behavior of young men and women contribute to their risk for HIV/AIDS and make it more difficult to address the epidemic. Some traditional cultural practices add to the risk (see box).

Often, a double standard prevails about sexual behavior (39, 125, 221, 426). Virginity is the traditional norm for unmarried girls, while young men are expected to seek sexual adventure. Fearing that they will be admitting to sexual activity, many young women cannot ask for information about sex or protect themselves (299). In Brazil and some other countries, married men's infidelity is considered normal and acceptable (98). Among the Zulu of South Africa, the term for a man with many sexual partners, *isoka*, is the ultimate compliment. In a recent study, news that one of the respondents had fathered a third illegitimate child was greeted with relief by his family as evidence that he had demonstrated beyond doubt his *isoka* status (381).

In some societies young women as well as young men are expected to be sexually experienced. In some West African communities virginity is considered to be unmodern, antisocial, and unhealthy, and virgins are considered to be "frigid" (321). In Cameroon norms of sexual activity among adolescent girls are so strong that virgin girls tend to be scorned both by men and women. People feel that, so long as a young woman is not promiscuous, premarital sexual experience enhances her prospects for marriage (238).

Poverty and Deprivation

AIDS is now largely a disease of deprivation (403, 410). A World Bank analysis of 72 countries shows that at the national level both low per capita income and unequal distribution of income are associated with high rates of HIV infection. Among urban adults in the typical developing country, a US$2,000 increase in per capita income is associated with an HIV infection rate 4 percentage points lower (7).

In a climate of deprivation young people, and especially young women, are at particular risk. In Kenya, for example, adolescent women from poor and unstable family environments were more likely than women from better family environments to have had sexual experience (189). In Ecuador sexual risk-taking by adolescents was more common among families with only one income earner than in those with two or more (109).

In many countries young women, lacking opportunities, seek support from men, trading sex—and thus the risk of contracting HIV infection—for security. The risks are greater when the men are older. In Tanzania, for example, where growing poverty has made traditional marriages more difficult to arrange, young women compete for the attention of older men, who are better established than young men and thus more attractive as potential husbands (205). Often, this practice is driven by parental expectation of financial support from their children (434). Similarly, in Nicaragua economic upheavals have caused many young women to prefer older men who can take better care of them (426).

Although the motivations for this are complex (434), young women sometimes enter into relationships with older men—called "sugar daddies" in sub-Saharan Africa—who pay their school fees, buy them gifts, and offer other inducements (205, 238, 255, 315, 434). Other young women establish similar relationships with young men (134, 205, 255, 267). In South Africa many young women have sexual relationships in exchange for favors, gifts, and cash (217). A few studies report similar arrangements between young men and older women, as in Cameroon and South Africa, where some young men have "sugar mummies" (238, 322).

Profiles of HIV/AIDS:

Going Public

"I was young and handsome and could get all the girls I wanted. Then I started getting sick."

—Mark

Mark, age 26, contracted HIV at age 18. Now he spends his time telling young people about the dangers of having unprotected sex.

"I became sexually active at a very early age. To me it was all about proving to my friends that I was a man by sleeping with different girls. I was young and handsome and could get all the girls I wanted. I had my life set in the fast lane. I did not use condoms, and neither did I ask my partners how many partners they had before me.

"Then I started getting sick. When I became very sick, I decided to go to the hospital, and I was diagnosed with pneumonia and TB. In the community, when you have TB, people start saying that you have HIV. To prove them wrong I decided to get tested for HIV.

"I went back to the hospital and had the test. They told me to come back for the results in two days but I did not go back for three weeks. I was scared to know my results. I finally gained courage and went back. The results came out positive. The first thing I did was cry.

"To me this meant I only had a short time to live. I was confused and thought about suicide. The doctor comforted me and told me that this was just the beginning of my new life. He told me that nothing was going to change except that I would have to take good care of myself and not engage in sex. As soon as he said this, I knew my life had come to an end.

"I did not tell anyone about my HIV status for a long time. I pretended that I did not have HIV and continued the same life that I was leading before by having sex with different girls. Every day I felt more miserable. I knew I had to accept the fact that I was HIV-positive and start a whole new life. I would have to tell my friends, my girlfriend, and my family that I had HIV.

"A few months after I found out I was HIV-positive, I started going to an HIV counseling center. At this time no one knew about my HIV status except for the people at the counseling center—or so I thought. I did not know that my father had gone to the hospital to see the doctor who did my tests. The doctor told my father I had HIV. My father did not say a word to me. He continued treating me the way he always did.

"Some people from MTV who wanted to do a documentary on young people living with HIV visited the counseling center. They asked me if I would be in the documentary, and I agreed. It was shown on Zambian national television. Many people had seen the documentary, and I thought this would be a way for me to start talking about my situation. But to come out in the open and say that I had HIV was shocking to many people. I experienced a lot of stigma. People who knew me did not want to come close to me or shake my hand. Sometimes people went as far as to call me a murderer. That hurt a lot.

"But I do not regret having gone public because I want to let other young people know how I got infected. Anyone can get HIV, and young people are most at risk. I go into communities, schools, and colleges to talk to the young people on ways they can protect themselves from getting infected. I tell them that if they are not careful, they could end up like me—another statistic."

Namonje Nakanyika, a 22-year-old journalist for the Zambian youth publication Trendsetters, *prepared these profiles for* ***Population Reports****. In each interview names have been changed to maintain confidentiality.* Trendsetters *is Zambia's largest circulation newsprint periodical. Photo by Ketan Joshi of an AIDS mural in Durban, South Africa, July 2000.*

(For other interviews, see pages 18, 27 and 31.)

Male Circumcision and HIV/AIDS: Are Adolescents the Key?

Male circumcision is associated with lower rates of HIV acquisition, according to epidemiological and ecological studies. Male circumcision is the surgical removal of the foreskin (prepuce) of the penis (379). Uncircumcised men are two to eight times more likely to have HIV infection (112, 253, 394).

In addition, evidence suggests that male circumcision also protects against other STIs, including chancroid, syphilis, genital herpes, and gonorrhea. It also appears to reduce the risk of penile carcinoma and urinary tract infections (252).

The most compelling evidence about HIV and male circumcision comes from Uganda. In a study of 187 discordant couples in which the woman was infected with HIV but the man was not, no circumcised man became infected with HIV over a 30-month trial period. Among the uncircumcised men 29% became infected. Among the 223 discordant couples in which the man was HIV-positive but the woman was not, circumcised men were less likely to transmit the virus to women, but this protective effect declined at higher viral loads (101).

Worldwide, about one-quarter of men are circumcised, mostly in North America, in countries of the Middle East and Asia with large Muslim populations, and in parts of Africa (252). In Jewish and Islamic communities circumcision is performed as a religious ritual shortly after birth (175). In many African cultures it is performed among adolescents as a coming of age rite. In addition, it is practiced as a medical procedure to treat infections, injury, or anomaly of the foreskin (379).

Researchers believe that the foreskin provides a ready portal of entry to HIV and other pathogens. The inner surface of the foreskin is rich in special cells called Langerhans cells. These cells are particularly vulnerable to HIV and appear to be the primary means through which HIV enters into the penis (348). Also, the foreskin is more susceptible to trauma during intercourse, which can make it vulnerable to HIV (112). Differences in religion, sexual practices, or hygiene associated with ethnic groups that favor circumcision do not appear to explain the association between circumcision and HIV infection (17, 394).

The Importance of Age

The age at which a person undergoes circumcision appears to be particularly important. In the Rakai region of Uganda, for example, circumcision before the age of 12 years was significantly associated with decreased risk of HIV, but circumcision at 13 years or older was not. HIV prevalence was 7% for men who were circumcised at the age of 12 years or younger, 15% for men circumcised at 13 years or older, and 14% for uncircumcised men (178). Similar findings have been reported by other researchers (51).

Experts increasingly are calling for circumcision to become part of a public health strategy to reduce HIV acquisition (17, 112, 252). If this call were heeded, evidence suggests that adolescents, especially those under the age of 12 years, would be an important starting point. To substantially reduce HIV transmission, males would need to be circumcised before they reached sexual maturity (51) and before they commence sexual relations.

Other scientists urge caution until the evidence is clearer. Gathering confirmatory evidence would involve conducting clinical trials to circumcise young boys, a situation presenting difficult ethical issues (101). Little is known about the impact and cost-effectiveness of male circumcision as a public health strategy. A recent experts meeting found it premature to recommend circumcision in noncircumcising communities (379).

Moreover, circumcision is not an absolute protection against AIDS. Circumcised men are still at risk (40). Therefore, some scientists recommend that programs considering male circumcision for HIV prevention should also include other effective measures, such as condom promotion, behavior change, and STI prevention (112).

Economic hardship and civil unrest have pushed more and more young men and women away from home and into towns and cities to look for work. Many enter multiple sexual relationships that carry risk for HIV and thus transmit the virus from one place to another (111, 247). Female migrant workers—many of them unmarried girls in domestic or seasonal work—are often sexually exploited (277). Poverty and lack of alternatives also are major reasons that many children become sex workers (31, 37, 137, 176, 219). In some Asian countries young women enter the sex trade with the sanction of parents, in order to send money home (56, 202).

Social Intolerance and Discrimination

When societies do not recognize that young people share the same human rights as adults, they make young people more vulnerable to intolerance and discrimination. Policies toward youth often reflect adult views of what young people should and should not be doing, not what young people really need. For example, discriminatory policies do not respect young people's need for medical confidentiality and may restrict access to information (127, 361). Many young people who have been tested positive for HIV have learned of their status not from health care providers but from their parents, who have been informed without the young person's consent (130).

Prejudice based on sexual orientation and discrimination due to HIV status further fuel the AIDS epidemic (162). Many societies contribute to the spread of HIV/AIDS by stigmatizing, and often outlawing, homosexual behavior (55). Until recently, the Catholic Church in Ireland did not recognize the existence of homosexuality, and thus health officials did not respond to cases of AIDS among gay men (336). In the US the initial labeling of HIV/AIDS as a "gay disease" distanced the rest of society from the epidemic and made it difficult to obtain government funding for prevention programs in the early 1980s (97). Such attitudes particularly affect youth experimenting with or coming to terms with being bisexual or gay—leading to sex in a climate of secrecy or shame (283).

Addressing the Epidemic

In several developing countries recent declines in the prevalence of HIV/AIDS among young people, accompanied by clear signs of individual behavior change, give hope of eventually curbing the epidemic:

- In Thailand HIV incidence among young army recruits declined by 90% between 1991 and 1995 after the government adopted its comprehensive AIDS-prevention campaign (151).
- In Lusaka, Zambia, HIV prevalence among 15-to-19 year old women dropped from 28% in 1993 to 15% in 1998, and similar declines occurred in some rural areas (93, 424).
- In Uganda several studies have documented declines in HIV prevalence among young men and women in the 1990s (14, 181, 254).
- Tanzania, too, has seen recent declines in HIV prevalence among young people (199).

While few countries have made a determined effort to deal with the HIV/AIDS epidemic, 20 years' experience has demonstrated that national strategic approaches, not just more projects, are essential to contain the epidemic effectively (162). In Australia, Brazil, Senegal, Thailand, and Uganda, AIDS-prevention programs owe their relative success in part to collaboration among government, the private sector, and nongovernmental organizations (NGOs) (150, 151, 243, 288, 406). An AIDS strategy is likely to be more sustained when included in national government budgets and development goals (62).

Within an AIDS-prevention strategy, a combination of approaches is essential, including:

- **Advocacy.** Advocacy efforts inform and motivate policy-makers and communities—at international, regional, national, and local levels.
- **Education and communication.** Education and communication alert young people to the risks of HIV/AIDS and promote healthier behavior—through, for example, curriculum-based programs in schools, mass-media campaigns, peer education, and community outreach.
- **Access to condoms.** Condoms are the only contraceptive method that also prevents transmission of HIV. Making condoms widely accessible to young people can and does help control the spread of HIV/AIDS.
- **Voluntary counseling, testing, and referral.** Knowing one's HIV status can lead to healthy behavior. Also, as treatments become more widely available, early voluntary counseling and testing can lead to timely care (156).
- **Improving young people's lives.** AIDS-prevention efforts that focus on protecting young people's health will have more impact if they are joined by other efforts to improve young people's economic and social conditions (7).

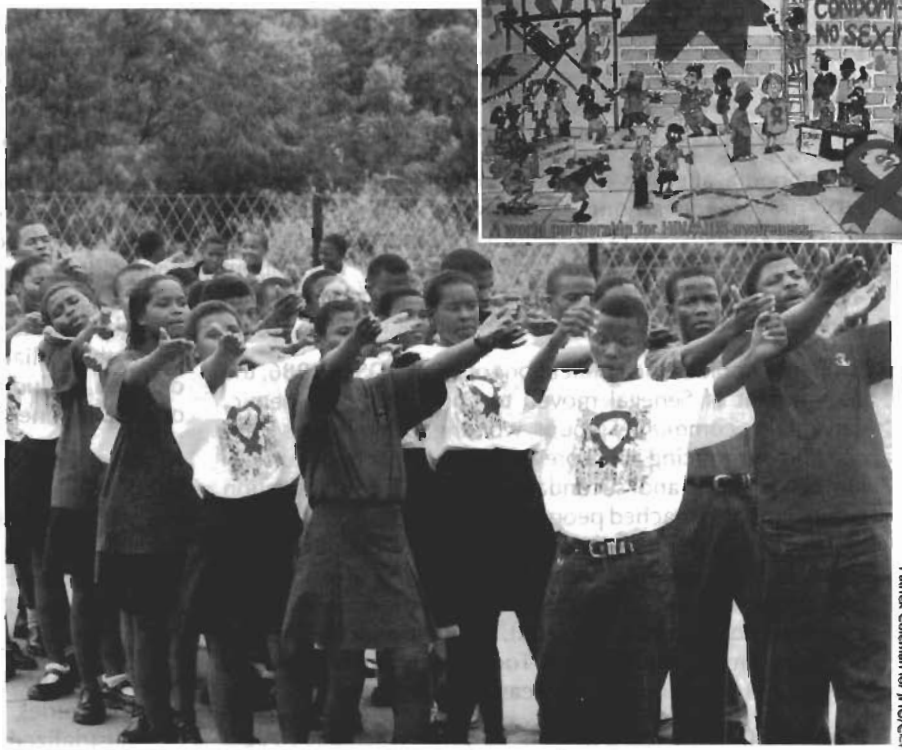
As program efforts to change people's behavior continue, other efforts to influence social norms and empower communities to address the epidemic are becoming more important. Researchers and policy-makers now recognize that individual behavior is more likely to change in the context of a supportive community (7, 155, 156, 184, 223, 264, 329).

Towards an Enabling Environment

The impact of the AIDS epidemic could have been reduced substantially had political leaders taken it seriously and responded at once. As the United Nations General Assembly Special Session on HIV/AIDS noted in 2001, "strong leadership at all levels of society is essential for an effective response to the epidemic" (166).

In countries with effective approaches, national policies provide a supportive and enabling environment in which projects and programs can operate and be sustained (156, 233). In some countries leaders have responded decisively and have made a difference. Uganda's success against HIV/AIDS, for example, is often attributed in part to President Yoweri Museveni's bold leadership in acknowledging the epidemic early and encouraging widespread prevention efforts (150). In India the prime minister has urged members of parliament to recognize the epidemic as the most serious public health problem in the country (247).

South Africa Department of Health



Patrick Coleman for JHU/CCP

A South African school drama troupe performs a play about HIV/AIDS for young people. Some wear t-shirts with the poster from the "Action for AIDS—Youth: A Force for Change" campaign (see inset). Addressing the AIDS epidemic requires a variety of approaches, including advocacy, sex education, and communication.

Population Services International (PSI)

In India reproductive health educators use a puppet show to tell commercial sex workers how to avoid HIV/AIDS and to protect against pregnancy. Some programs advocating condoms—the only contraceptive that also prevents HIV transmission—have reduced prevalence of HIV among sex workers.

In Thailand, after surveillance reports in 1989 showed that the country was in the early stages of an AIDS epidemic, the government responded with a comprehensive approach. This approach included a widespread public information campaign, efforts to discourage visits to sex workers, and a program to promote universal and consistent condom use in commercial sex (the 100% Condom Use Program) (149, 408, 414).

One of the most dramatic changes in individual behavior that resulted from the Thai government's efforts was a sharp decline in young men visiting sex workers for their first sexual experience (48). Condom use with brothel-based sex workers is now nearly universal. Condom use with casual partners remains less common, however (155, 408). Nevertheless, Thailand's aggressive action has reduced adult HIV/AIDS prevalence to less than 2%, compared with an estimated 10-15% without such prevention efforts (247).

In Cambodia, after surveillance reports in 1998 showed 40% HIV prevalence among sex workers, the government adapted Thailand's 100% Condom Use strategy. As a result, condom use in brothels rose substantially. In 1997 about 40% of brothel-based sex workers were using condoms with their clients; by 1999 the figure had doubled to 80% (162).

Similarly, upon the first indications of HIV/AIDS in 1986, the government of Senegal moved to confront the epidemic, galvanizing community groups, working with religious leaders, and introducing AIDS prevention in the school curriculum in primary and secondary schools. Communication campaigns also reached people by radio, in mosques, and at the markets. Parents and other adults were encouraged to speak to their children about HIV/AIDS. As a result, HIV prevalence among pregnant women has remained under 2%, with no upward trend (288). In addition, condom use has risen among young men. Today, only about 10% say they do not use condoms with casual partners.

In contrast, some governments may have set back AIDS prevention with statements and positions that perpetuate misunderstanding and divisiveness about HIV/AIDS and its victims. For instance, in 2000 South Africa's President Thabo Mbeki speculated publicly that HIV does not cause AIDS—even though South Africa has more HIV-infected persons than any other country (162). In Argentina a project to improve reproductive health among young people, including HIV prevention, came to a halt when the project became a divisive issue during an election campaign (241).

Until more leaders speak out and break the wall of silence, shame, and blame that surrounds AIDS, there is little hope of mounting a vigorous broad-based effort against the epidemic (162). Government leadership is particularly important on behalf of young people, who are rarely in positions of authority and cannot often speak for themselves.

Advocacy. Advocacy can stimulate effective action on behalf of reproductive health, including prevention of HIV/AIDS (136, 378). International agencies, including the UN and its various agencies, can do much to advocate addressing AIDS as a global development issue and to increase and sustain international support. Advocacy efforts are particularly needed for a sharper focus on youth.

Some countries have launched advocacy efforts that are likely to benefit youth. In the Philippines, for example, advocacy by a coalition of NGOs led to legislation that bans compulsory HIV testing, guarantees the right to privacy, and outlaws discrimination against persons living with HIV/AIDS (136). The advocacy also led to passing of the 1998 Philippines AIDS Law, which provides a legal mandate for enforcement of statutes at the local level (247). Advocates are working in Botswana to establish HIV/AIDS education in schools, and in Cambodia, AIDS education for young beer-hall waitresses (112). In Nepal groups are advocating the rights of girls who have been trafficked into prostitution (56).

The Central American HIV/AIDS-Prevention Project (PASCA) works to strengthen collaboration among parliamentarians in the region by exchanging information on AIDS issues. The project motivated leaders from Honduras, Nicaragua, Panama, and El Salvador to sign the San Salvador Declaration, which focuses on youth (112).

Some young people living with HIV/AIDS have become advocates themselves (397). In South Africa Nkosi Johnson, a 12-year-old boy who was infected at birth, became a compelling voice for children living with HIV/AIDS. After a school refused to admit him because of his infection, he brought his case to then-President Nelson Mandela. As a result, the parliament passed a statute allowing HIV-infected children, including Nkosi, to attend school (63). Nkosi died of AIDS in June 2001.

Funding. Funding for HIV/AIDS prevention is inadequate (403). While more and more policy-makers acknowledge HIV/AIDS, rarely do governments provide enough funding for effective action against the epidemic (162). In fact, between 1988 and 1997, as HIV spread, the amount of donor assistance per HIV-positive person fell by more than half (16).

Moreover, funding for AIDS is not going where it is needed most. While 95% of people with HIV infection live in developing countries, 95% of all AIDS-prevention money is spent in industrialized countries (265). According to UNAIDS, a total of US$7 billion to $10 billion is needed annually for AIDS prevention and care in low- and middle-income countries, most in Africa. This amount is five times that currently spent (163, 167).

AIDS Education

In June 2001 member states at the United Nations General Assembly Special Session on AIDS agreed to "ensure that by 2005, at least 90% of young men and women aged 15 to 24 have access to the information and education necessary to develop the life skills required to reduce their vulnerability to HIV infection" (366). One way to achieve this goal, at least in theory, is through a country's education system—especially if programs reach students at an early age, before some begin to drop out of school (65). At the International AIDS Conference in Durban in 2000, the "Prevention Works" Symposium recommended that HIV/AIDS education begin early, focusing on children as young as five years old (180).

Nevertheless, there is considerable disagreement over HIV/AIDS education—including what to teach, at what age, in what setting, by whom, and to what end. Political pressures often keep sex education—and thus HIV/AIDS education—out of the classroom. Sensitivities about sexuality and young people's behavior often obstruct AIDS education even where there is a strong national commitment to address the AIDS crisis (329) (see p. 11). In spite of such obstacles, some school programs appear to have made gains, although evidence from program evaluation is sparse (327).

Comprehensive evaluations have examined the impact of HIV education programs worldwide. In Canada and the US researchers found that one-third of the 28 programs they reviewed delayed the age at sexual initiation among students participating (191). A more recent analysis that reviewed school-based education programs in Namibia, Nigeria, South Africa, and Zimbabwe found that some of the programs helped delay sexual initiation, decreased number of partners, and increased contraceptive use (430). For example, in Namibia a curriculum that emphasized abstinence and safer sex practices helped some female students delay the start of sexual activity but did not increase abstinence or condom use overall (437). In Brazil students participating in a school-based AIDS education program reported having fewer sex partners than students in schools without the AIDS program (58).

Important components of AIDS education programs for youth include addressing peer pressure and norms that encourage risky behavior (53, 190). Changing young people's risk-taking behavior requires going beyond providing information to helping young people acquire the ability to refuse sex and to negotiate with sex partners.

In Thailand a comprehensive education program for young people included problem-solving exercises, role playing, and analysis of "triggers" for unsafe sexual behavior (such as alcohol use). This program helped to achieve a 50% decline in new HIV cases, and the incidence of STIs among young men in the program was one-seventh of that among a control group without AIDS education (49).

Researchers have identified key elements of HIV/AIDS education programs, largely from US-based studies (190, 191). Programs are more likely to be successful by:

- Focusing on reducing specific risky, sexual behaviors;
- Using theoretical approaches to behavior change that have proved successful as a basis for program development;
- Having a clear message about sexual activity and condom use and continuously reinforcing this message;
- Providing accurate basic information about the risks of adolescent sexual activity and about methods of avoiding intercourse or using condoms against HIV infection;
- Dealing with peer pressure and other social pressures on young people to be sexually active;
- Providing modeling and practice of communication, negotiation, and refusal skills;
- Using a variety of teaching methods that involve the participants and help personalize information;
- Using teaching methods and materials appropriate to students' age, sexual experience, and culture;
- Selecting as teachers people who believe in the program and then training them to be effective.

More evaluation is needed of developing-country AIDS education for youth in school and out of school (436).

HIV/AIDS education programs should be age-appropriate—that is, programs for younger adolescents should focus on avoiding or delaying sex, while those for older adolescents should include discussion of condoms and other contraceptives in addition to urging abstinence (7, 53, 193). Of course, education cannot help young people who cannot avoid or delay sex, even if they want to—for example, young women trafficked into prostitution or raped in refugee camps.

Peer education. Many strategies for youth now make peer education a key approach (80). Perhaps the most important goal of peer education is to establish standards for acceptable behavior. When youth play a role in developing social and group norms that protect against HIV infection, they serve as positive role models for behavior change (272).

Most young people find trained peer educators credible because they communicate well with other youth and set believable examples of behavior. Peers also can help other young people acquire such skills as sexual negotiation and assertiveness (65, 77, 80, 179).

For peer education programs to be effective, training of the peer educators is essential—including follow-up sessions that reinforce knowledge, beliefs, and skills (129, 194, 347).

Association for the Care of Children's Health (ACCH)

"To give sex education to adolescents is to prevent early births, unwanted pregnancies, STIs, and AIDS," says this poster from Cameroon. "If only I'd had good information!" this young woman reflects, while her classmates laugh at her on their way to school.

Profiles of HIV/AIDS:

Peer Educator

"A lot of young people know that HIV is real, but they still do not think it could happen to them."

—James

James, age 30, has been an HIV/AIDS peer educator for the past three years at a counseling center for people in Zambia living with HIV/AIDS. He is HIV-positive.

"A 12-year-old girl came to the counseling center. When I asked her how she got infected with HIV, she said it was by having sex.

"I go to different communities throughout the country to educate young people about HIV/AIDS. We peer educators always point out that HIV has no boundaries and a person can get infected with just one unprotected sexual act. But a teenage girl or boy is having too much fun to believe this. Most young people have the attitude that 'It can't happen to me.'

"A lot of young people who know that HIV is real still do not think it could happen to them. So we go into communities and schools together with people who are living with HIV to show just how close HIV is to all of us. Young people can see the consequence when HIV-positive people who are very sick tell them about how they got infected. Sometimes we see fear in their eyes."

(For other interviews, see pages 13, 27, and 31.)

Training not only should ensure that peer educators know how to teach about HIV/AIDS but also that they are able to see things from the perspective of the young people they are trying to reach (129).

A wide variety of peer AIDS-education programs in developing countries reach young people, including in Indonesia (139), Kenya (156), Peru (431), Thailand (49, 85), and Zambia (285, 331). While evidence from evaluation is slight, peer education programs have been found to reduce the incidence of STIs including HIV, change risky behavior, and improve health (129, 179), including among the peer educators themselves (269). In a US peer education program among youth, for example, condom use increased from 45% to 55% among participants surveyed (272). In Peru, in the absence of the Es Salud peer project, youth condom use in the project area would have been 39% less (431).

JHU/CCP

In rural Thailand a student peer educator prepares a presentation on HIV/AIDS for youth. Peer educators are credible among young people; they communicate well and are believable role models.

Peer education is sometimes assumed to be inexpensive, since it relies on volunteers. Costs can run high, however, to train, support, equip, and supervise peer educators (129). High turnover among peer educators requires continuous recruitment and training of replacements. Also, peer programs usually need professionals to provide guidance and support. While a growing consensus holds that peer educators should be compensated in some way, experience cautions against overcompensation to avoid distancing peer educators from their audience (82, 129, 347).

Mass Media Communication

The mass media—especially television and radio—reach large numbers of young people around the world and have enormous influence. In a 23-country study among 12-year-old school children whose homes had electricity, over 90% watched an average of three hours of television per day (365). In virtually all developing countries most women ages 15 to 19 have regular access to television and radio (45). While young people obtain a great deal of information about reproductive health from entertainment programs in the mass media, many of these programs have the effect of promoting unsafe attitudes and behavior and portraying sex in ways that encourage risk-taking (23, 346).

Increasingly, reproductive health groups are working with the mass media and entertainment industries to develop accurate and healthy presentations of sexual topics and to raise media literacy among young people (263). A 1999 review in Europe found that the mass media promoted open and frank discussion about responsible sexuality. Messages encouraged healthful sexuality and did not stress fear or shame (23). In the US the Media Project honors members of the entertainment industry who incorporate accurate and honest portrayals of sexuality into their programs (234). In South Africa a program by Soul City helps young people understand that television and radio programs do not always reflect reality and that viewers should think critically about what they see and hear (246).

Because mass media entertainment is so popular, it can reach many young people with positive health information. In Uganda, for instance, The Safer Sex or AIDS Campaign, which encouraged young people to make responsible decisions about HIV/AIDS, reached 92% of its intended audience (210). In Zimbabwe a similar communication campaign reached 97% of youth surveyed (182). In Botswana Tsa Banana, a mass media campaign to improve adolescent reproductive health, reached about 70% of adolescents (114).

Mass media can be an efficient way to reach and influence young people. For example, in Kenya a call-in radio program for youth cost just three US cents per young person reached. The cost of getting one young person to take action to improve reproductive health—for example, visiting a health clinic—was 12 cents (188).

AIDS-prevention programs can use a variety of media, including dance, drama, folk theater, and sports events as well as television, radio, and print media. Programs such as Africa Alive! work with popular entertainers and sports heroes to reach young people with messages about HIV/AIDS (146,

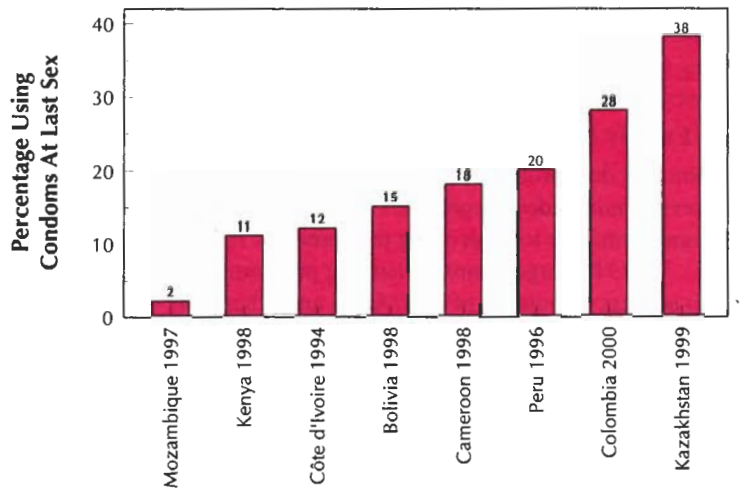
152, 159, 206). Different communication channels reach different audiences, and messages are most effective when reinforced by various communication channels (182, 210).

Mass media communication can lead to positive health behavior. In Zimbabwe, for example, young people reached by a communication campaign to encourage "saying no" to sex were 2.5 times more likely than those whom the campaign did not reach to change their sexual behavior for the better (182). In Zambia adolescents exposed to a TV campaign promoting abstinence and condom use were 87% more likely to use condoms. In addition, viewers were 46% more likely to be abstinent or to have resumed abstinence (439). In Uganda self-reported condom use among sexually active young men rose from 33% to 70% following The Safer Sex or AIDS Campaign, and from 58% to 73% among young women (210). In South Africa 38% of young people who watched the TV program Soul City reported always using condoms compared with 26% of those who did not watch (323).

Mass media programs are not able to address all aspects of HIV prevention (114, 210). Experience shows that the most effective communication programs involve both mass media and face-to-face communication, such as peer education in small groups (296).

Figure 3. Condom Use Among 15–19 Year-Old Females At Last Sex

*Percentage of Unmarried Currently Sexually Active Females Using Condoms**



*Comparable data for males are available in three countries: Kenya, 1998 (43%); Malawi, 1996 (17%); and Mozambique, 1997 (8%)

Source: Demographic and Health Surveys, 1994–2000 **Population Reports**

Condom Use

Increasing condom use is crucial to controlling the spread of HIV/AIDS. Condoms are the only contraceptive method that offers dual protection—that protects against infection as well as pregnancy (see box, p. 20). Despite increasing needs, worldwide donor support for condom purchases declined from about US$68 million in 1996 to $38 million in 1999 (291).

Most unmarried young people who have sex do not use condoms. For example, in surveyed countries of sub-Saharan Africa, the percentage of unmarried sexually active women ages 15 to 19 who reported using condoms in their most recent sexual encounter ranged from 2% to 18% (see Figure 3). In Colombia, Peru, and Kazakhstan from one-fifth to about one-third used condoms. Condom use among unmarried sexually active young men was slightly higher.

Better access to condoms can increase their use (66, 71). Condom social marketing—the promotion of healthy reproductive behavior and sale of condoms at subsidized prices—increases both the demand for condoms and their supply (83, 95). Social marketing can make condoms better known, more affordable, and widely available through shops, pharmacies, and other retail outlets. In studies young people often say that they prefer private-sector sources—especially retail outlets—as their source of condoms (224, 237).

Some social marketing programs have successfully focused on adolescents, including the Social Marketing for Adolescent Sexual Health (SMASH) Project in Botswana, Cameroon, Guinea, and South Africa. This program relied on radio and television messages, designating youth-friendly outlets where young people could buy condoms and receive counseling, and outreach activities such as peer counseling and youth clubs. As a result of the SMASH project, in all four countries awareness of condoms increased, while personal barriers to condom use, such as shyness about buying condoms and difficulty discussing use with a partner, diminished (296).

Some social marketing programs are making the female condom available, although on a limited basis. The female condom is a female-controlled contraceptive method that can prevent HIV/AIDS (117). Experience with social marketing of female condoms in Zambia and Zimbabwe suggests that women need considerable counseling and other support to keep using them (5, 84, 258). Even at subsidized social marketing prices, female condoms are still much more expensive than male condoms, and too costly for many adolescents (84, 291). Many public facilities make male condoms available free of charge, but not female condoms (229).

Left: Population Services International; Right: JHU/CCP

Left: In an AIDS-prevention campaign in Côte d'Ivoire, rival football stars join together to promote condom use. Right: In Kenya a counselor hands out educational materials to football fans as part of a campaign to involve more young men in preventing HIV/AIDS.

Dual Protection: Avoiding Pregnancy and HIV/AIDS

Condoms are the only contraceptive method that provides dual protection—that is, protects against both pregnancy and most STIs, including HIV. Using condoms along with another family planning method for extra pregnancy protection also constitutes dual protection. Practicing sexual abstinence and avoiding penetrative sex are other ways to avoid STIs and pregnancy (138).

What Family Planning Programs Can Do

By promoting dual protection, family planning programs can help prevent unintended pregnancies among youth and at the same time contribute to controlling the spread of HIV/AIDS (21, 95). WHO has urged family planning programs to do more to address prevention of HIV/AIDS and other STIs (417). Programs can stress that condoms can be effective against HIV and some STIs when they are used correctly and can assure that good-quality condoms are widely available at reasonable cost (291).

Family planning programs can best encourage condom use among young people by promoting positive attitudes towards condoms at the time people are starting sexual activity—before young people establish patterns of high-risk behavior. Programs also can serve as important links to HIV testing and counseling (74). This link may be crucial because people need to know that they and their partner are not infected before they stop using condoms and begin to use a different contraceptive method. Condom use is likely to be most consistent at the beginning of relationships and then to decline once the partner is perceived as "safe" (197, 279).

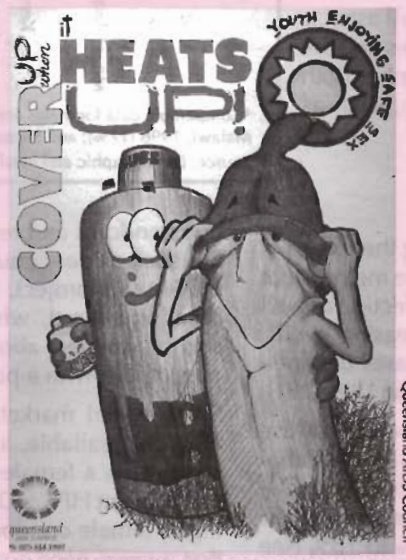
The dual protection strategy of using condoms to protect against infection and another method for contraception faces obstacles, however, particularly among young people. For many people, use of one method—much less two—can be difficult enough. Many adolescents cannot afford two methods or cannot obtain them both. Also, adding a second method may impair consistent use of the first (47, 319).

Despite obstacles, more young people are using condoms (162). Studies around the world document these increases. In Tamil Nadu, India, the proportion of young men who used condoms with casual relationships rose from about 45% in 1996 to nearly 70% in 1998 (162). In Brazil the percentage of young men who reported using condoms the first time they had sex rose from only 5% in 1986 to 50% in 1999 (162). Also, in Uganda ever-use of condoms rose from 15% in 1989 to 55% in 1995 among men ages 15 to 19 and from 6% to 39% among women in the same age group (14). Condom use appears to be more acceptable among younger men than among older men (162).

The adolescents who use condoms more consistently are those more likely to have the self-confidence to insist on condom use with their partners, to take personal responsibility for condom use, to have greater control over their impulses, and to begin condom use when they are young (66, 86, 197, 302). Other attributes associated with consistent condom use include having talked with parents about condoms, associating with peers who encourage condom use, having high educational aspirations, high parental income, generally adopting a healthy lifestyle—for example, not drinking alcohol or taking drugs (181, 191).

Assessing Condom Effectiveness

A recent expert workshop assessing research on the effectiveness of male condoms concluded that condoms have been proved effective in preventing "HIV transmission in both men and women who engage in vaginal intercourse." The researchers concluded that male condoms were also proved effective in "reducing gonorrhea among men" (262). It is generally accepted that, when used correctly all the time, condoms prevent most STIs, including HIV (440). They offer less protection, however, against herpes, human papilloma virus (HPV), and other STIs that can be transmitted through skin-to-skin contact between parts of the body not covered by condoms (95).



"Cover up when it heats up," urges this Australian poster promoting condoms for safer sex among youth. Condoms provide dual protection against pregnancy and HIV/AIDS.

Scientists estimate that male condom effectiveness for pregnancy prevention in the "best case," that is, when used correctly and consistently, is 3 pregnancies per 100 women in the first year of use and in typical use is 14 pregnancies (117). The female condom appears to be somewhat less effective than the male condom in preventing pregnancy (138). Its effectiveness against HIV and other STIs has not been fully assessed, however.

Microbicides?

If microbicides were available, they could offer dual protection (417). Microbicides are chemical products that, for dual protection, would be administered vaginally before sexual intercourse to kill HIV and other STI pathogens and at the same time disable or kill sperm. Unfortunately, no microbicides exist for use today. While over 50 such products are in various stages of testing, none is expected on the market within the next five years (293, 294).

Developing microbicides is challenging. For example, the product must not irritate the vaginal lining. Nonoxynol-9, the widely-used spermicide, was thought to be effective against HIV. Recent research, however, found that when the product was used by sex workers—who would use it much more frequently than most other women—nonoxynol-9 was associated with vaginal lesions, thereby increasing the likelihood of HIV transmission (161). Even if a microbicide were found to be safe and effective for adults, its safety, efficacy, and acceptability for adolescents would still need to be assessed.

Voluntary Counseling, Testing, and Referral

Early testing for HIV/AIDS offers many benefits, especially for young people, but in most countries it is still rare. Especially as treatments become more available for HIV infection, early testing and counseling could lead to timely care, improve the medical management of HIV-related illnesses, and provide an opportunity to reduce perinatal transmission of HIV.

Debate continues over whether taking the HIV test leads to safer behavior (404). Some researchers have demonstrated that, once aware of their HIV-positive status, some infected people change their behavior to avoid transmitting HIV (385). In addition, starting antiretroviral therapy as soon as possible lowers the viral load (102) and may therefore reduce the risk of transmitting HIV. For those who test HIV-negative, testing can provide an impetus to develop a plan for avoiding infection.

Nevertheless, few young people get tested, even in countries with the most severe HIV/AIDS epidemics. There are several reasons. First, testing facilities are scarce in many countries. Second, treatment for HIV-positive persons is often lacking, so why bother to be tested? Third, the stigma of HIV infection can discourage many young people, as it does many adults. Regardless of age, many do not seek testing until they develop symptoms or a spouse or sex partner dies of AIDS (433). They may have been transmitting HIV to others for years.

Among youth, further barriers to voluntary testing include lack of information, perception of low risk, lack of confidentiality, costs, transportation problems, and laws that require parental consent (116, 121, 286). A US study found that the number of adolescents who were tested for HIV/AIDS rose by 150% when parental consent was no longer required (235). Some countries impose administrative requirements that can discourage voluntary testing for HIV (57).

In testing for HIV, ensuring medical confidentiality is essential. The right to confidentiality is recognized by the UN Convention on the Rights of the Child (202). Yet confidentiality is often compromised. In Kenya, for example, nearly one-third of adolescents studied received their test results either in a letter or from their parents, instead of privately from a health care provider (130). In Russia efforts to trace HIV-positive cases can leave trails that compromise confidentiality (136).

Testing programs need to develop strong referral networks to help youth regardless of their HIV status. In particular, test sites can be linked with programs that help people who are HIV-negative plan how they will avoid risk and with programs that help the HIV-positive obtain medical care. Voluntary testing also provides an opportunity to refer young people for other reproductive health care, especially for pregnancy prevention and STI treatment. Referral systems are rare, however (130). Providing better referral for youth may require more extensive assessment, staff training, and clinical follow-up care than for adults (311).

Psychological and ethical issues. Being tested for HIV/AIDS is stressful for anyone and especially so for young people (185, 311). Young people who test positive want to maintain a belief in their own invincibility but are suddenly confronted with their own mortality. It may take them months to accept their situation and to seek treatment (337). It is encouraging, however, that young people at high risk of HIV infection are more likely than other young people to seek testing and to return for the results—perhaps because they are aware that their behavior has placed them at risk (309, 383).

Many young people who test HIV-positive need special support and counseling. In many countries, however, if any HIV/AIDS counseling is offered at all, most testing facilities offer it only in single short sessions, where there is little opportunity to explore problems (286, 311). Many health care providers recognize that the quality of counseling needs improvement (91).

Providers can address young people's concerns about testing by talking with them about the process and by role-playing possible scenarios such as how to tell a partner or parents or how to face various possible test results (337). Providers also can help adolescents develop a strategy for remaining healthy, including adopting safer sex practices.

Providers often are unsure or uncomfortable about dealing with HIV/AIDS among youth. Some wonder whether it is even legal for them to test young people and to offer preventive services. In Ghana a chief concern among providers was whether it was permissible to give young people contraceptives. Many were afraid of offending community norms (230). Some health care providers who disapprove of sexual activity among adolescents scold them or deny them information (133, 183, 237). Even worse, some young female clients have been propositioned for sex by male providers (59).

Researchers in the US have developed a set of criteria to make testing facilities "teen friendly" (121). While these criteria are based on a specific economic and cultural context, they may be helpful elsewhere as well. A "teen-friendly" HIV testing facility:

- Has respect for teens,
- Offers free testing,
- Offers a broad array of teen-oriented services,
- Assures confidentiality,
- Does not require parental consent,
- Offers a choice between oral or blood-drawn tests,
- Is convenient, with access to public transportation,
- Asks few questions, and
- Requires little paperwork.

Photo rights for JHU/CCP

In Kampala, Uganda, a health care center offers a range of reproductive health services covering sexually transmitted infections, HIV, and family planning. Health centers need to make young people feel welcome and comfortable.

I am 10 years old and I am the first born. My mother died in 2000 and my father died in 1999 as a result of Aids.

POSTCARDS FROM AFRICA

Children Orphaned by AIDS: A New Challenge

The HIV/AIDS pandemic has dramatically increased the number of orphans. UNAIDS estimates that by 1999, the date of the most recent estimate, 13.2 million children under the age of 15 had lost either their mother or both parents to AIDS (162).

Around the world, such calamities as war, famines, and diseases make orphans of about 2% of all children under age 15 (360). In countries hardest hit by HIV/AIDS, however, 8% to 34% of children have been orphaned by AIDS (118, 207). UNAIDS considers children to be orphaned by AIDS if either their mother or both parents have died of AIDS. The worst may be yet to come. In models of the epidemic, the number of children orphaned by AIDS peaks 7 to 10 years after HIV prevalence peaks (118), or a projected 20 to 30 years after the onset of the AIDS epidemic (38).

Nine of every 10 children orphaned by AIDS are in sub-Saharan Africa (118, 162). Already, over 1 million children in each of four countries—Uganda, Nigeria, Ethiopia, and Tanzania—have been orphaned by AIDS. In 12 other sub-Saharan countries at least 200,000 children have been orphaned by AIDS, from 230,000 in Burundi to 900,000 in Zimbabwe, according to UNAIDS (162).

Some children, including many orphaned by AIDS, are infected with HIV themselves. Most contracted the virus from their mothers (see related box, p. 6). The life expectancy of such children varies widely, studies have found (211, 245, 275). In the US about 20% died by age four (376). In Malawi, where treatment is much less available, 89% died by age three (349).

Children orphaned by AIDS, like other orphans, face many hardships, especially when a household loses its primary wage earner (69, 118). Some will have witnessed the prolonged illness and deaths of their parents or other family members (99). When parents get AIDS, the household's focus usually shifts from caring for children to caring for the sick adults (135, 360). Often, grandmothers, aunts, or older sisters take responsibility for orphans (162, 207, 340). When family members cannot help, orphans may go to foster homes, church-run facilities, orphanages, or other institutional care.

Many children orphaned by AIDS drop out of school. In Benin, for example, only 17% of children whose parents have died attend school compared with 50% whose parents are both still living (361). Older children often drop out of school to care for younger siblings, with females working in the household and males looking for jobs (9, 88, 118, 369). Also, children orphaned by HIV/AIDS may be kept out of school because they are stigmatized (360).

Whether children legally can remain in their residence after the death of their parents influences whether or not the family will stay together (90). Protecting the legal rights of children orphaned by AIDS regarding inheritance, housing, health care, and schooling can help lighten their burdens. Some children orphaned by AIDS live without any adult care, but there are no reliable estimates of their numbers (69, 88, 332). When no adult takes in the children, the older children in the family typically take on parenting roles for their younger siblings (270). In Ethiopia orphaned children as young as eight years take care of their siblings (69). Children who must head their own households face many difficulties, including stigmatization, poverty, malnutrition, lack of health care, and lack of social support (69, 118, 330).

Many children orphaned by AIDS take to the streets to escape their loss, to run from abusive or oppressive living conditions, to find work, or to seek independence (248, 369). By leaving home, however, they often enter the street culture, with its violence, exploitation, crime, drugs, hunger, and disease. Tenuous living conditions and economic troubles make such children targets for sex work, sexual and physical abuse, pornography, cheap labor, and other exploitation (256, 358).

Responding to the Crisis

Countries and communities have begun to respond to help children affected by the AIDS crisis. In some cases communities have come together spontaneously to assist (118). The responses include a variety of strategies (162):

Finding job opportunities. In Uganda the Women's Effort to Save Orphans (UWESO) organizes programs to generate income for children orphaned by AIDS (307, 400).

Encouraging education. In Zambia free community schools help meet the needs of children orphaned by AIDS. There are no school fees, and the schools accept children with interrupted or no previous schooling (360).

Offering services. In Chennai, India, the Community Health Education Society, an NGO, provides shelter and health services to children orphaned by AIDS and to others affected by AIDS (333).

Developing partnerships. In Botswana the National Orphan Programme, established in 1999, links government, community, and private organizations to address such issues as child support, custody, guardianship, and financial support. The program intends to develop a comprehensive national orphans policy based on the International Convention on the Rights of the Child (360).

HIV Treatment and Care

For millions of young people living with HIV/AIDS, little treatment and care are available. Indeed, for most young people in the countries hardest hit by the HIV/AIDS epidemic, no treatment is available at all. Although treatment for related conditions such as STIs and opportunistic infections is more available, many young people cannot afford it. They cannot ask their parents or others for financial help if they do not want to reveal their infection (82).

Nor can the governments of most developing countries severely affected by AIDS afford the huge sums needed to provide treatment for AIDS patients. Brazil has halved its AIDS deaths by providing generic AIDS drugs at US$4,500 per patient per year, while in the US similar drugs would cost $12,000 to $15,000. This amount is still far beyond the means of most African countries, however.

Recent promises by global pharmaceutical companies to make AIDS drugs available at deeply discounted prices still leave the neediest people unable to afford the medicines (16). Nevertheless, efforts to allow the importation of less costly generic drugs without fear of lawsuits from pharmaceutical manufacturers raise hope for the future. In 2001 the largest producers of AIDS drugs agreed to drop their lawsuit that would prohibit the South African government from importing cheaper AIDS drugs (61). Several other countries are preparing to develop their own AIDS drugs or purchase generic versions.

Management of HIV/AIDS among young people requires a variety of assistance and referral networks for their range of problems (132). As with other chronic diseases, compliance with a strict regimen of complex care and medications for HIV is difficult and often is not a high priority for youth. To keep young people in the health care system, a balanced approach is essential—both working with young people to address personal issues and developing a realistic prevention and care plan (405). Providers need to be sensitive to young people's lack of maturity and difficulty following treatment plans (311). Many health care providers have had no training in the management of HIV, however, or in how to be sensitive to young clients (132, 324).

The advent of antiretroviral therapy has prompted an important debate about the relative merits of prevention versus treatment and care. Many industrialized countries and several developing countries, including Brazil and South Korea, can afford treatment as well as prevention efforts. Most other countries, however, must make difficult decisions about whether to emphasize prevention or treatment, because the funds for either effort must come from the same source. Some are trying to find a middle ground (62). Prevention is still the hallmark of HIV/AIDS programs for young people, to ensure that no more young people become infected. At the same time, treatment for HIV/AIDS and for opportunistic infections and antiretrovirals should be offered wherever possible.

Youth Livelihood Approaches

Helping young people avoid HIV/AIDS requires also helping them improve the social conditions that place them at risk. Recent initiatives seek to avoid the conditions that promote the spread of HIV, building on earlier poverty reduction models (290, 307). These include:

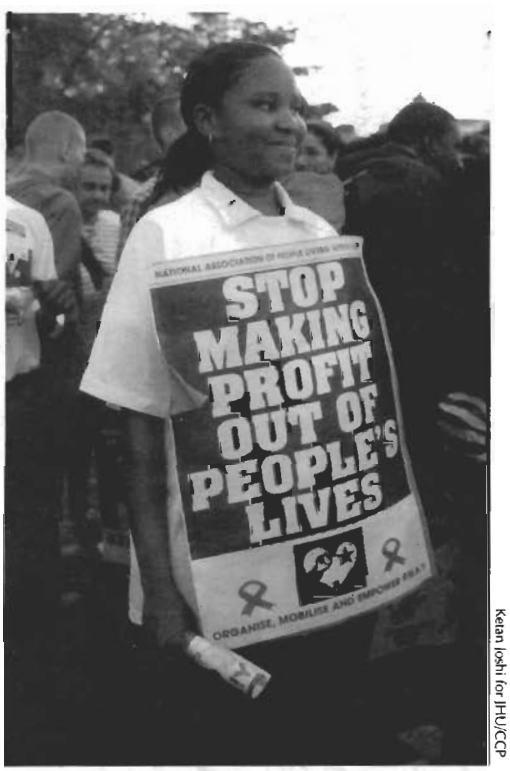
- Helping youth find employment and other opportunities;
- Providing credit and other financial help for job training and learning business development skills;
- Developing institutions, alliances, and networks that improve the economic skills of youth; and
- Promoting policy and social changes that improve young people's lives.

While a wide range of youth livelihood programs exist, most are small (307). They have only recently begun to link HIV/AIDS prevention to their other activities. Many focus on children orphaned by HIV/AIDS (see box, facing page). Others provide education and job training—for example, in Thailand scholarship projects rescue girls being sold into prostitution and help them to attend school (176).

Some livelihood projects offer loans to help young people begin businesses, pay school fees, or buy food (67, 290). In Bangladesh Action AIDS, an NGO, helps young women become entrepreneurs. In 1998, some 547 women received loans to start small businesses (76). In India the Deepak Charitable Trust operates clinics, where young men and women can receive information on reproductive health including HIV/AIDS (429).

Such programs can run into trouble, however, if they are not carefully designed. In Kenya, for example, a group of HIV-positive women received a loan to grow crops for sale, but no one would buy their produce (67). Also, loans to young people can raise ethical and legal questions—for instance, is it appropriate to allow a young person to take on debt? What can young people use as collateral? And how can credit for young people be protected from some unscrupulous adults (25)?

The impact of youth livelihood approaches is bound to vary. Impact depends on the factors motivating adolescent sexual risk-taking and the likelihood of exposure to HIV/AIDS. Still, the approach constitutes a promising addition to such other efforts as sex education, mass media communication, and counseling. In particular, to the extent that young people's sexual relations are linked to their economic needs, livelihood approaches may be crucial.



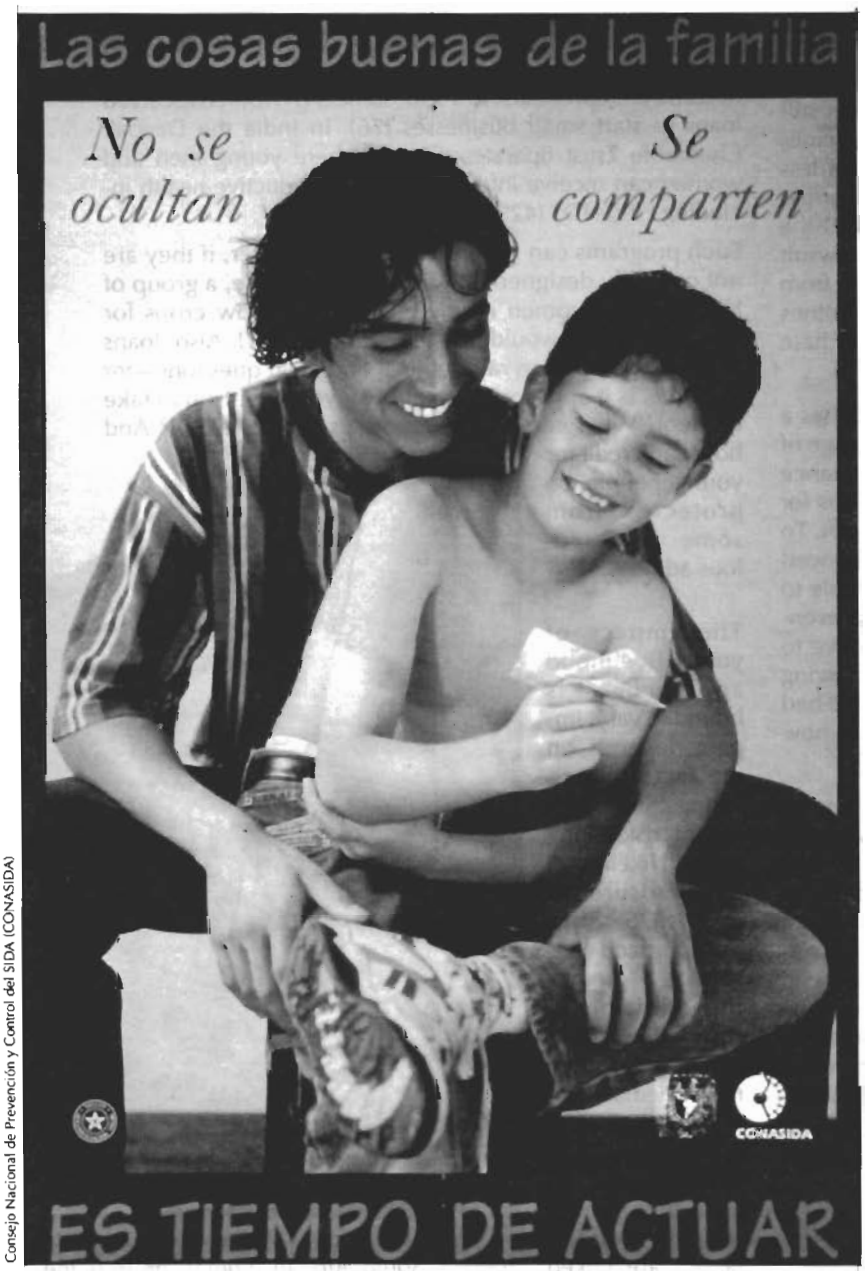
Ketan Joshi for JHU/CCP

At the International AIDS Conference in 2000, a South African woman protests the high cost of AIDS treatment. Most AIDS programs emphasize prevention. Most people and governments cannot afford to pay the huge sums needed to treat AIDS patients.

Reaching Out

Addressing the HIV/AIDS epidemic among young people requires reaching not only youth themselves but also others who influence their lives. Parents and other family members can help prevent HIV/AIDS among young people. Similarly, AIDS-prevention programs can do more to address men, both adolescents and adults, who often play dominant roles in sexual relationships with young women.

Meeting the challenges of HIV/AIDS also requires reaching out to the millions of vulnerable youth on the margins of economies and societies. Engaging young people themselves to plan and carry out AIDS-prevention programs can help assure that programs meet their needs.



Consejo Nacional de Prevención y Control del SIDA (CONASIDA)

"The good thing about a family: No secrets. Everything is shared," says this Mexican poster. The words "Time for Action" appear below. The poster depicts an older brother showing condoms to his younger brother. Studies show that young people with a stable, supportive family and parental monitoring take fewer risks.

Involving Parents and Families

Parents, of course, greatly influence their children's health behavior. In a US study that asked students who most influenced their decisions about sex, 37% cited their parents, while 30% cited their friends (261). In addition to parents, other adult family members and others in the community influence adolescent health behavior.

Studies show that young people with a stable, positive, and supportive family environment that includes parental monitoring engage in less risk-taking (29, 191, 200, 304). Parental affection helps deter such adolescent behavior problems as violence and delinquency (318). In a US school sixth and seventh graders with supportive parents were less likely to use drugs or to get into fights and were more likely to delay sex than classmates who were emotionally detached (355). A variety of other studies report similar findings (19, 36, 209, 242, 396, 426).

Parents often say that young people should be taught about HIV/AIDS. In Brazil, for example, the vast majority of women interviewed in a low-income area said that they did not want their daughters to grow up as uninformed about sex as they themselves were (393). In a study in Kenya over three-quarters of parents of children ages 10 to 14 said that adolescents should be taught in school about HIV/AIDS and other STIs, as well as about family planning and other reproductive health subjects (177).

Some youth programs have sought to involve parents in reproductive health education, training parents in workshops and discussion groups, providing print materials, hotlines, and other information sources, and depicting parental roles in mass media presentations (103, 276). The best programs are often those that bring parents and young people together and stimulate an exchange of views (192).

Parent-child communication. Communication between parents and their children about sex is often difficult. Parents and children alike often are embarrassed to talk about sex and avoid the topic (36, 393). In South Africa adolescent women said they were afraid to talk to their parents about sex (217). In Zimbabwe young people said that communication with parents about sex was often one-sided, with the parents mainly warning about the dangers of sex (402). In Mexico young people also cited such communication barriers as lack of time, not getting along with their parents, and lack of trust in their parents' advice (393).

In many cultures parents traditionally did not discuss sex with their children. Instead, grandparents, aunts, and uncles played this role. Now the breakdown of traditional cultures has left many parents with the challenge of talking to their children about HIV/AIDS as well as sex, and many are ill-prepared (186, 402).

HIV/AIDS is a particularly sensitive topic that many parents avoid. In Kenya less than half of the parents of teenage children had discussed HIV/AIDS with

(Continued on page 27)

HIV/AIDS

What Young People Want to Know

Population Reports *compiled these questions asked by young people from a variety of published sources. The answers can help inform young people about AIDS and encourage healthy behavior.*

This list of frequently asked questions can be ...ched and copied for young people and health providers.

What is HIV/AIDS?

HIV—the human immunodeficiency virus—infects and weakens people, making them very ill and unable to fight off other infections. AIDS—acquired immunodeficiency syndrome—develops between 2 to 10 years after infection with HIV, as the final stage. A person with AIDS eventually dies from diseases caused by the infections associated with HIV.

How do you become infected with HIV?

You can become infected if the blood, semen, or vaginal fluid of someone who has HIV enters your body. The main things that people do that put them at risk of getting HIV are:

- Having sex with a person who has HIV without using a condom correctly every time you have sex.
- Using needles for intravenous drug use that are contaminated with HIV.
- Body piercing or tattooing or being cut with needles, razors, or other sharp objects that have not been sterilized and are contaminated with HIV.

In addition, children can be infected in the womb, during childbirth, or during breastfeeding if their mothers have HIV.

Can I become infected with HIV if I have oral or anal sex, but not vaginal sex?

Yes.

Can I get HIV by having sex with an infected person even though that person got HIV another way than through sex?

Yes. People with HIV can pass it to others through any behavior that transmits HIV, no matter how they got HIV themselves.

Can I get HIV through casual contact with infected people?

No. It is not possible to be infected by going to the same school, using the same toilet, drinking from the same glass, or doing anything that does not involve blood, semen, or vaginal fluids from an infected person entering your body. Kissing an infected person cannot transmit HIV unless the infected person's saliva or blood mixes with your blood, as through open cuts or sores.

Can I get HIV from the bite of a mosquito or other type of insect?

No.

Can you tell by looking at someone if they have HIV/AIDS?

No. Often, a person with HIV/AIDS looks no different from other people. People living with HIV/AIDS can develop health problems, but so can others who do not have HIV/AIDS.

Is there a vaccine that can protect me from HIV?

No. Research is underway but so far has not developed a vaccine against HIV.

If I have been treated for other sexually transmitted infections (STIs), am I immune to HIV?

No. Having an STI increases your chances of getting HIV from your sex partner and of transmitting it to other partners. If you get treated for and are cured of your STI, your chances of getting HIV decrease but are not eliminated.

Is there any 100% effective way to protect myself from HIV/AIDS?

Yes. You can avoid HIV infection if you:

- Abstain from sex entirely, or you and your partner have sex only with each other and are certain that neither of you is infected with HIV. (The only way to be sure that you and your partner are free of HIV is to get tested for HIV together and to see the results together.) AND
- Do not share needles for intravenous drug use. AND
- Do not have body piercing or tattooing or get cut with needles, razors, or other sharp objects that others may have used and have not been sterilized since.

If I have HIV and have sex with somebody who is not infected, will that help cure me?

No, and you might infect the other person with HIV.

(continued on next page)

Is there any cure for HIV/AIDS?

No. Once you are infected, HIV will be in your body for the rest of your life.

Do condoms protect against HIV infection?

Yes. Using either male or female condoms correctly in every sexual act, including the first time you have sex, protects against HIV infection. Another benefit of condoms is that they also prevent pregnancy. Using condoms *every time* is very important. So is using condoms correctly, so that they do not break or slip off during sex. Many people do not use condoms consistently or correctly and thus risk HIV infection.

Isn't it true that HIV is so small that it can pass through the condom?

No. The condom is an effective barrier to HIV when used correctly.

If a sex partner wants to use a condom, does that mean the person has HIV or thinks the other person does?

No. Many people use condoms because it is a safer way to have sex. In fact, the condom is the only contraceptive method that provides dual protection—that is, it protects both against HIV infection and against pregnancy. Some people prefer to use a condom to avoid risk of HIV along with another contraceptive method for added protection against pregnancy.

What happens if I have HIV/AIDS and have unprotected sex or inject drugs with another person who has HIV/AIDS?

The two of you will still have HIV/AIDS. Your health may worsen, in fact, because each of you is giving the other more of the virus. This is called re-infection.

How can I be sure that I do not have HIV?

You can be tested for HIV. An HIV test detects antibodies to HIV, which the body produces when virus or bacteria infect it. It usually takes three to six months after exposure to HIV for a test to detect these antibodies. Several kinds of HIV tests are available at health clinics and other facilities. The most common tests require a sample of blood, urine, or inner cheek cells. You may have to wait several days or weeks for your test result, although newer tests can give the results within minutes. An HIV test should also include a counseling session with a health professional before and afterwards to help you understand the test and its results and to answer your questions.

When should I have an HIV test?

It is important to be tested if you currently engage in or have ever engaged in behavior that might expose you to HIV infection, such as having sex without a condom or injecting drugs.

Some specific occasions for having an HIV test include:

- You are about to begin a sexual relationship with someone, and you both want to be sure that there is no risk for HIV infection.
- You and your partner plan to have a baby and want to be sure that the baby will not face risk of HIV infection from the mother during pregnancy, childbirth, or breastfeeding.
- You want to confirm your own HIV status because a sex partner or someone you shared needles with is seriously ill or has just died, and you suspect AIDS.

What are the possible results of an HIV test?

A test result can be HIV-negative, HIV-positive, or indeterminate. If you test HIV-negative, it probably means that you are not infected, but it could mean instead that you took the test too soon after exposure to HIV for the antibodies to have developed. If you test HIV-positive, it is almost certain that you are infected. The chances that an HIV-positive result is wrong are very low. An indeterminate test result means that it is not clear whether you have HIV or not. Then you have to take the test again. Also, whether you test HIV-negative or HIV-positive, you sometimes might be asked to take the test again to be sure of the result.

How often should I get tested?

How often you should get tested depends on your situation, so you should consult a health care provider for the specific answer. If you are engaging in behavior that could cause infection, it is important to be tested about every six months because you could get infected at any time.

Is there a difference between an anonymous test and a confidential test?

Yes. In anonymous testing, the test site does not ask for any personal information—such as your name, address, or telephone number—so no one but you has access to your personal HIV test results. In confidential testing, your personal information is linked to the test result, but it is kept private and not revealed to others.

Do I have to tell anybody what my HIV/AIDS status is?

Whether you tell anybody your HIV/AIDS status and whom you tell are decisions that only you can make. A counselor may be able to help you make the decision.

How can I best tell someone that I have HIV/AIDS?

Telling close friends and family members that you have HIV/AIDS takes courage. Before you tell anyone, you need to feel emotionally stable about your HIV status. You may want to consult an HIV counselor, peer educator, health care worker, or clergyman and ask for suggestions or advice. When you tell people, be prepared to deal with a range of reactions, from fear and anger to compassion and understanding.

them in the preceding year (177). Many parents know little about HIV/AIDS and worry that they do not have the information to give their children (36, 120, 133). In the US parents said one reason for poor communication was that their teenage children might ask questions the parents could not answer (142). In developing countries, especially in rural areas, parents often are less educated than their children and worry that they lack the knowledge to talk with them about sex (402). China trains youth peers to educate young people about HIV and sex, in part because many parents are unsure what to say (54).

When parents do talk to their children about sex, they often fail to do so effectively. In Zimbabwe, although many parents said that they had discussed AIDS, none of the adolescents interviewed cited parents as an important source of AIDS information (402). In a US study 90% of mothers said they had spoken to their children about sex, but only two-thirds of the children agreed (142).

Most researchers agree that parent-child communication about HIV/AIDS and sexuality should begin early so that it can evolve comfortably as the child matures. A single serious talk about sex as a child enters puberty is likely to be strained and awkward. Similar discussions before, however, provide the groundwork for a successful discussion (37). Parent-child communication is most likely to be successful, of course, in a close, loving relationship.

In the US the National Campaign to Prevent Teen Pregnancy has developed 10 tips to help parents communicate with their adolescent children about sex (260). These tips are:

- Be clear about your own sexual values before you talk to your children about sex.
- Talk to your children early and often about sex.
- Be sure to have a two-way discussion and not a lecture.
- Supervise and monitor your children.
- Know your children's friends and their families.
- Discourage early, frequent, and steady dating in favor of group activities.
- Discourage dating where the age difference is large, especially for young girls.
- Know what programs your children are watching on TV, listening to on the radio, and what they are reading.
- Let your children know that you value education.
- Let your children know that you value them.

Involving Men

HIV prevention efforts have started addressing young men and the social pressures that often lead to risky sexual behavior, especially peer pressure (85, 160, 187). Men often play dominant sexual roles within and outside marriage. Men face greater exposure than women to the risks of unsafe sex because, on average, they begin sex earlier and have more partners but marry later

Profiles of HIV/AIDS:

Times Have Changed

"I am an African man, but when it comes to my children's health, I put my traditional beliefs aside. I talk to my children about sex."

—Joseph

Joseph, 46, is the father of six children, three of whom are teenagers.

"It is not easy for an African parent to sit down and talk to their children about sex. The topic has been taboo for as far back as African tradition goes. But our teenagers today are going around getting wrong information from their peers and from magazines, and they end up infected with HIV/AIDS. Young people make the wrong decisions about sex because their parents do not inform them.

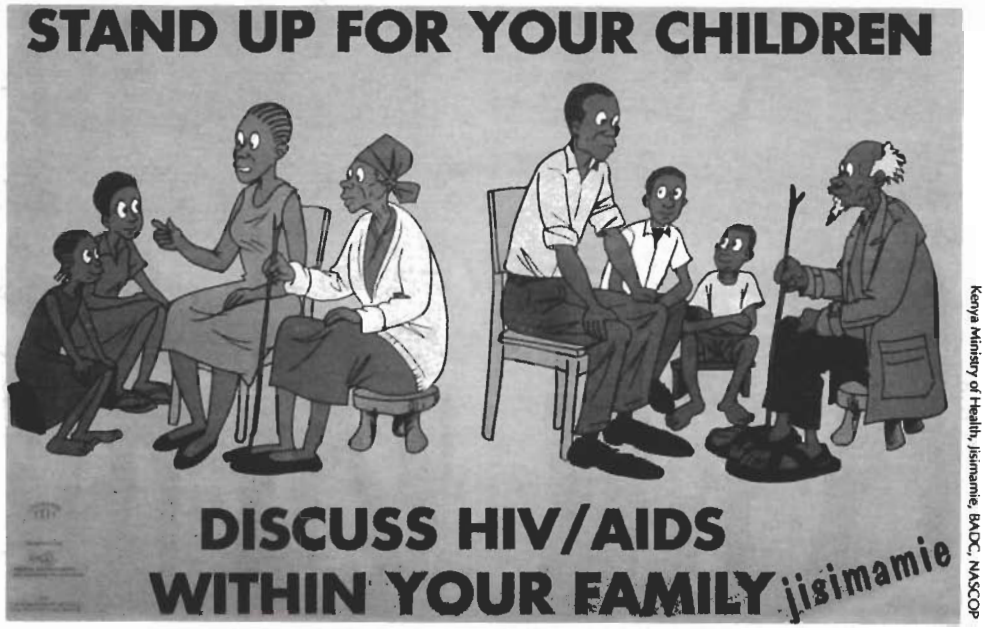
"I am an African man, but when it comes to my children's health, I put my traditional beliefs aside. I talk to my children about sex. A lot of parents fear talking to their kids about sex because they think that, if their children are not yet sexually active, they will start having sex as soon as they learn about it.

"I never had sex until I got married, but times have changed. Parents have to accept that children already know about sex. They are becoming sexually active as early as age 12. It is up to us to tell them about responsible and protected sex.

"A lot of teenagers fear talking to their parents about sex because they think that their parents will accuse them of sleeping around. Instead, they go to their friends, who won't ask them embarrassing questions or care whether they are sexually active. If one of my children became sexually active, I would know because of the good relationship I have with my children.

"Teens make their own decisions, but parents can have a lot of influence. Parents have to do away with traditions and start to talk openly to their children about sex. It is up to us to instill morals and show children the right way to go. If you instill good values, no matter where your children go or what influence they are under they will make the right choices."

(For other interviews, see pages 13, 18, and 31.)



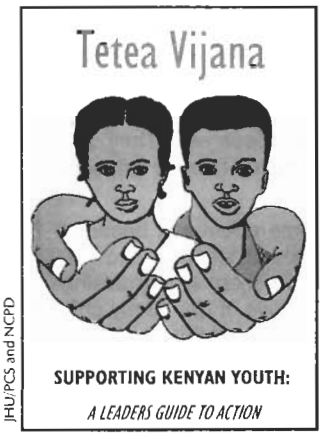
Kenya Ministry of Health, Jisimamie, BADC, NASCOP

This poster from Kenya advocates communication between parents and their children about HIV/AIDS. Even though talking about sex can be difficult for adults and youth alike, most experts agree that communication about sex should begin early and occur frequently.

(103, 160). In addition, many men would consider their masculinity compromised by having fewer sex partners and always using condoms—behavior that could limit the spread of HIV (68, 299, 322).

For young men, being able to talk about problems, including concerns about sexuality, and to obtain support are important steps to avoiding risk. Yet many boys grow up without the opportunity to communicate (103). In Kenya, for example, less than half of fathers reported in a nationwide survey having discussed sex, HIV/AIDS, or male-female relationships with their teenage sons in the preceeding year (177).

Health care facilities designed for adult women and children can have the effect of discouraging young men and adult men from seeking help there (237, 322). To motivate men to take better care of their health, UNAIDS launched a two-year worldwide campaign in 2000 entitled "Men Make A Difference." The campaign encourages AIDS-prevention programs to establish male-friendly health services with convenient service hours. It encourages training health care providers to offer males confidential care and support (160).



JHU/PCS and NCPD

This Kenyan booklet urges leaders to support reproductive health care for youth.

Presenting adult role models of responsible male behavior and mutually supportive and respectful relationships also can help young men (103, 249). Many young men grow up witnessing irresponsible or abusive behavior towards women in their communities or their own families (232). As adults, they tend to adopt such behavior themselves (119).

A seminar on male involvement programs in the US developed several principles to guide the structure, design, and overall messages of reproductive health programs for boys and young men (249):

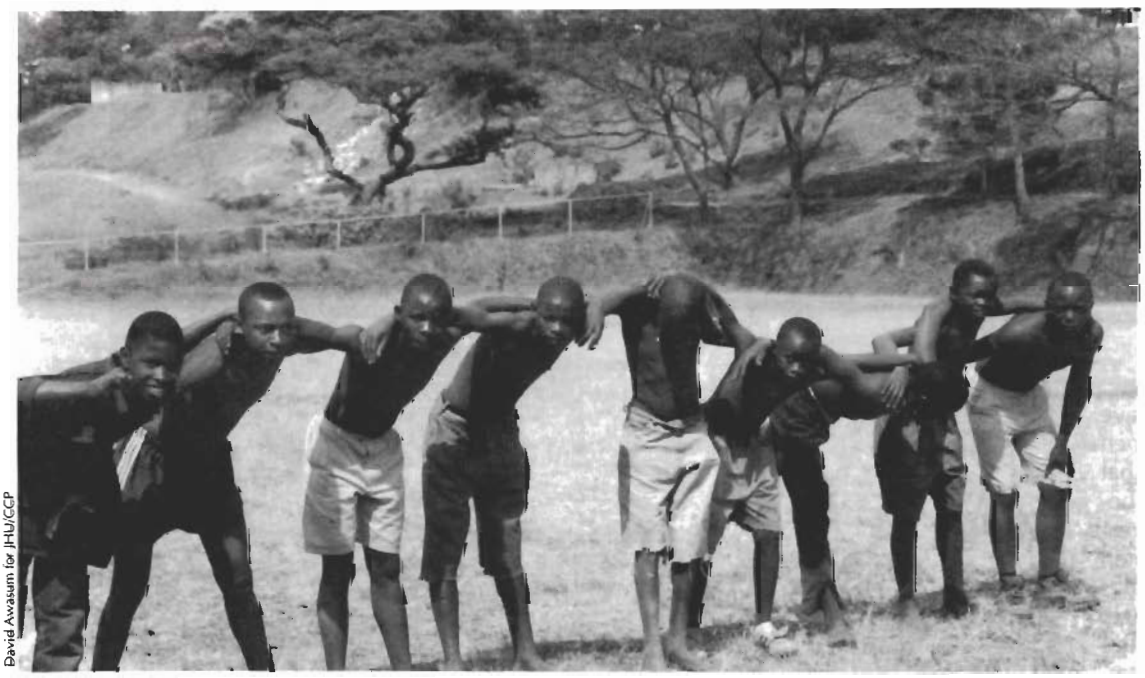
- **Make male focus mainstream.** Efforts to focus on boys and men should be an integral part of program service delivery, not just an occasional add-on.
- **Look for men where they are.** Programs should reach males where they congregate, including schools, workplace, sports events, and military barracks. Programs should use language and media that appeal to men.
- **Men need a safe place.** Male-only activities help create an atmosphere in which men can reveal their concerns, hopes, and fears.
- **Use adults as mentors and role models for young men.** Successful male-involvement programs for young men involve adult men. Experience suggests that slightly older peers—men five to seven years older—are able to communicate most effectively with adolescents.
- **Build on the culture.** Programs are more successful when they understand and respect cultural and religious values.
- **Locate the program in the community.** Successful programs consult with the community to plan activities and to allay concerns. Community involvement also helps keep programs going.

■

Reaching Youth at Special Risk

Some groups of youth are at far greater than average risk for HIV/AIDS (310). For some, HIV/AIDS is an ever-present threat because their poverty forces them to endure situations that place them at risk. Adolescent sex workers and street youth are the most visible disadvantaged youth. For example, in Vijayawada, a city in Andhra Pradesh, India, nearly half of the 25,000 street children had an STI, and 30% were infected with HIV (13). In Jakarta, Indonesia, one in every seven street children had a history of STIs (247).

Less visible are youth who are disabled, refugees, in institutions, or working in conditions in which they are easily exploited, such as domestic work. In Brazil 10% of young women in a state institution for homeless and offender youth were infected with HIV (425) compared with less than 0.5% of the general population of young women (162).



David Awasum for JHU/CCP

In Kigali, Rwanda, a group of street youth form a football club, which also serves to provide AIDS education. In some places a growing number of street children are living with HIV/AIDS. Outreach programs can find young men where they spend most of their time and approach them on their own terms.

Military men, who are predominantly young, face above-average risk for STIs, including HIV/AIDS (33, 322). Estimates are that prevalence of STIs is two to five times higher in the military than in the general population in peacetime and as much as 50 times higher during conflicts (148). In the military forces of some African countries, HIV prevalence ranges from 10% to 60%, according to an estimate by the US National Intelligence Council (268).

A number of programs seek to reach high-risk youth. For example, in Brazil a project in 10 communities works to prevent abuse of girls and to reduce the number who become sex workers. None of the 850 adolescents who have participated in the program has returned to street gangs or become a sex worker (156). Another program in Brazil, *Movimento Saude No Verde* (Green Light Health Movement) has recruited health care professionals to provide treatment for street youth (82).

HIV/AIDS outreach programs can find youth where they spend most of their time (37). Most programs to reach street youth approach young people on their own terms, using peer education and already trusted adults (387). Some also involve family, but this does not always work. In the US, for example, an effort to send street youth back to their parents or guardians failed. Many of the young people ran away, or their parents or guardians rejected them (387).

In Nepal programs have tried reuniting girls who have been trafficked into prostitution with their families. Sometimes the families do not accept the girls back, however, fearing social censure or ostracism due to the stigma associated with HIV/AIDS. In addition, some parents fear retribution from the broker, particularly when parents had consented to send the young woman into sex work (56).

In Guatemala, Casa Alianza, an NGO, organizes outreach teams that offer street youth emergency medical care, HIV information, informal education, and counseling (326). In Thailand a program reaches high-risk youth by working with the management of discos, bars, and other nightspots where young people gather (85). In Nepal some NGOs provide legal support to young trafficked women seeking to prosecute their abductors—often a long and complicated process, as court cases can take two years or more to resolve (56).

Reaching disadvantaged youth is a challenge. For some young people the immediate conditions of daily life are so adverse that they outweigh concerns about contracting HIV/AIDS. Still others are unable to protect themselves against infection. Many do not have any adult protectors and lack resources of their own (27).

Still, programs can address HIV/AIDS among the disadvantaged by reaching them with information and services while at the same time addressing the root causes that put them at risk (15, 104, 342). Programs are more successful when they are comprehensive, providing not only information and counseling about HIV/AIDS but also housing, medical care, mental health services, drug abuse treatment, education, job training, and legal services (15, 310, 407). For example, when a project in Brazil helped young street dwellers deal with their day-to-day survival concerns, rather than providing them only with health education materials, more youth visited the participating health facilities (145).

Building Partnerships with Youth

In general, programs for youth work better when young people help plan and run them (194, 347, 375). Involvement gives young people a sense of ownership of the program and helps develop skills such as management, organization, and decision-making (129, 179, 347, 411). It also helps assure that services and messages meet young people's needs.

Involving youth can be difficult. Turnover rates among youthful staff members can be high (347). Legal issues may arise, such as labor laws restricting employment of minors. Youth participation also can require organizational change, since the organization and the young people involved must share a vision and agree on objectives. Also, teaching and mentoring a young person can be time-consuming (375).

This AIDS-prevention project in Kenya used giant costumes to appeal to young people at special risk. The project reached nearly 10,000 people in a low-income settlement near Nairobi, where many young people are out of school and where sex work is widespread.

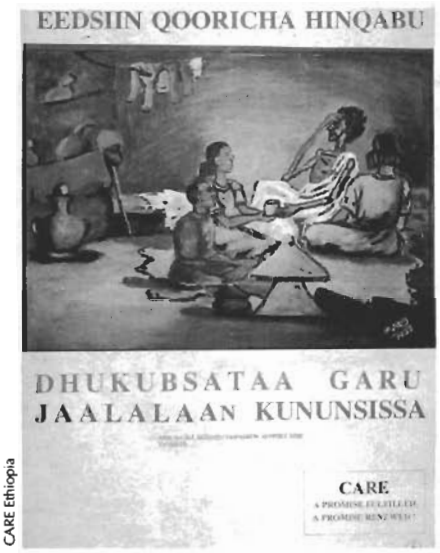
Youth involvement is more likely to thrive when program leaders are committed to it. Also, the staff may need training to work with youth effectively—to learn to "let go," to mentor, to understand youth culture, and to discuss sensitive issues comfortably. The US CDC Preventive Marketing Initiative has used such training techniques as role-reversal skits to help adults see their behavior as youth see it (375).

Programs can involve youth in a variety of ways. One program in Latin America listed various activities in which young people could participate and gave them the option to choose those they felt most comfortable doing (231). The activities in which youth are involved should be selected carefully, however. For example, while youth can serve as receptionists at a clinic to make other young people feel welcome, they might be denied access to medical records to protect patient confidentiality (421).

The value of involving clients in the planning and management of programs that serve them is well established. Although systematic engagement of youth remains the exception rather than the rule among HIV/AIDS programs, a growing number of programs are involving youth (328, 411). These efforts offer promise for the future.

The Consequences of Inaction

Worldwide, there is little chance of curbing the AIDS epidemic among youth without a comprehensive strategy and a full-scale campaign to end HIV infections. Even vigorous efforts taken right away to curb AIDS globally will be too late for many young people. In Zimbabwe, for example, because of AIDS a 15-year-old boy born in 1997 now has only a 50% chance of living beyond his 50th birthday, compared with an 85% chance for a boy born in 1983. In Botswana, 90% of girls and 88% of boys who turned 15 in 2000 are projected to die of AIDS at current risk levels. In Zimbabwe and South Africa AIDS will cause the deaths of nearly three-quarters of males now age 15 (162, 420).



CARE Ethiopia

This poster from Ethiopia depicts AIDS as the scourge that it is. Worldwide, only a large-scale campaign against HIV/AIDS can hope to end the suffering.

Worse yet, deaths from AIDS would be reduced only a little in the countries worst affected with the epidemic even if the risk of HIV infection could be cut in half before 2015, UNAIDS estimates. This is because so many people already are infected and likely to infect many others (162). In Botswana even if the risk of infection were cut in half by 2015, nearly 80% of males now age 15 would die of AIDS. Similarly, in Zambia, even with HIV risk cut in half by 2015, over half of males now age 15 would die of AIDS (see Figure 4). These grim statistics are similar for females now age 15.

Unless immediate and concerted AIDS-prevention efforts can reduce the risk of HIV infection to almost zero, it may already be too late to avoid catastrophic numbers of AIDS deaths among the current generation of young men and women in countries where HIV prevalence is highest, such as in southern Africa. In other countries where HIV is not yet widespread, adopting strategies that prevent HIV among youth can help millions of young people avoid the same fate.

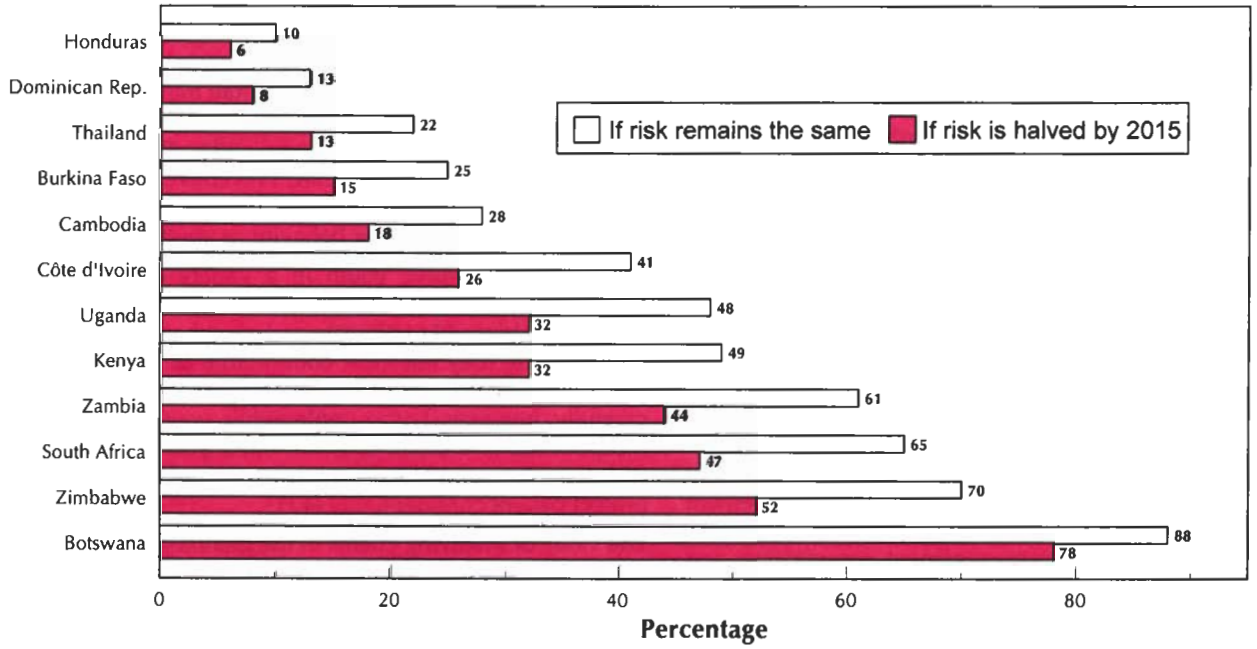
Preventing HIV/AIDS among youth is central to the goal set at the 2001 United Nations General Assembly Special Session on AIDS (166)—reducing HIV prevalence by 25% in the hardest-hit countries by 2005. Efforts must reach a wide range of youth, including children approaching puberty, adolescents, and young adults, and must address a variety of factors for developing and sustaining healthy behavior (see box, p. 32).

Social and Economic Consequences

The high levels of HIV infection among younger and younger people signals society's failure to protect its children (158). In failing to protect children, the world risks its future. If levels of HIV prevalence rise, not only will the health consequences be serious but also the demographic, economic, and social consequences (111).

Because of high mortality from AIDS, populations in some sub-Saharan African countries will begin to shrink within the next three years (338). By 2010 average life expectancy could decline to about 30 years in some countries hard-hit

Figure 4. Percentage of 15-Year-Old Males Who Will Die of HIV/AIDS Based on Different Risk Levels



Sources: Joint United Nations Programme on HIV/AIDS (UNAIDS), 2000 (162), and Zaba, 2000

Population Reports

by AIDS, such as Botswana, Mozambique, Namibia, Swaziland, and Zimbabwe. In Lesotho, Malawi, Rwanda, and South Africa, life expectancy is projected to fall to around 35 years. In some places AIDS is pushing life expectancies down to levels of about a century ago (338).

Assessing and predicting the social and economic impact of HIV/AIDS is more difficult than making demographic projections. For one thing, the AIDS epidemic has yet to run its full course in any country (398). For another, certain impacts of HIV/AIDS, such as despair and grieving, cannot easily be measured (334). Nevertheless, it is likely that the premature death of so many adults will lead to shortages of labor and to new needs for public welfare (4, 165).

As more and more adults die of AIDS, younger and younger adults would become responsible for managing government, including such key services as civil security, the courts, education, and health care (222). Already, in the countries hardest hit by AIDS over one-quarter of the medical staff are themselves infected with HIV (166).

In some communities many adolescents head their own households, raise children, and care for their parents who are dying of AIDS (165). Without immediate action, what is true of these communities today could become true of towns, cities, and even entire nations in the future.

Teacher shortages. For unknown reasons, HIV/AIDS rates are extremely high among teachers and school administrators, especially in Africa. In the Central African Republic 107 schools have closed because of teacher shortages, largely due to HIV/AIDS. In Zambia in the first 10 months of 1998, an estimated 1,300 teachers died—two-thirds the number of new teachers trained annually (361). In Botswana mortality among primary school teachers has increased by 60% in the last five years (364).

Researchers estimate that in Africa a teacher with HIV loses 6 months of professional time before developing AIDS and then loses an additional 12 months before dying of the disease (2, 162). In 1999 an estimated 860,000 children in sub-Saharan Africa lost their teachers to AIDS (361). Even more severe turbulence in the education sector could lie ahead. In a four-country survey—Kenya, Uganda, Zambia and Zimbabwe—the number of new teachers needed will exceed their availability at least through 2010, particularly in rural areas (2, 162).

In response, some education planners are proposing efforts to help teachers themselves learn how to avoid AIDS, as well as reinvigorating codes of conduct prohibiting sexual contact between teachers and students (212). Some already are calling for new approaches to education, such as distance learning for both teachers and students, on-the-job training, and expansion of teacher training facilities (62).

The impact of teacher shortages on the future of young people is likely to be felt in many ways, including lost opportunities for schooling and larger class sizes. For students, the presence in the classroom of a teacher who gradually succumbs to AIDS is likely to have a debilitating psychological impact (364).

Lost childhoods. Where AIDS deaths have forced many adolescents to take on adult roles, the transition from childhood to adulthood is disappearing. Often, children must leave school to care for a dying parent or relative. Because AIDS consumes family budgets, fewer funds remain available for children's education, health care, and other needs. In Thailand, for example, 15% of rural families affected by AIDS took a child out of school. In Côte d'Ivoire family outlays on education have been cut in half (4, 162). In Uganda, following the deaths of one or both parents, the chances of children going to school is cut in half, and young people who attend school spend less time there than before. Moreover, children who care for relatives with AIDS but who remain in school are often older than their classmates and thus more likely to drop out of school early (4, 222).

Some strategies being proposed to alleviate the impact of HIV/AIDS on children include subsidizing school expenses such as school uniforms and school fees. Others include offering food vouchers or otherwise assuring children of a meal (4).

Diminished productivity. The loss of adults to AIDS probably will diminish productivity in countries most afflicted. Some economists expect that in the manufacturing sector AIDS mortality will lead to a decline in revenues and result in slower

Profiles of HIV/AIDS:

My Daughter Liz

"It was difficult for me to look at my daughter without crying. She looked so helpless, and I could see the sadness on her face."

—Janet

"I always had a close relationship with my daughter Liz from the time she was very young. She was our only child, and I wanted her to be open and to feel free to talk to me about anything.

"One thing my husband and I did not really do was talk to our daughter about certain teenage issues when she became of age. We did not talk to her about sex because we were afraid that we would just send her off to do the wrong thing.

"Liz was 19 when the relationship between us started fading. Normally, when she was not sure about something, she would sit down with me and ask. This did not happen anymore as she became older. A space developed between us. She wanted to hang around with her friends more than she wanted to stay home.

"Liz was not a bad child. She was intelligent and humble. All she was going through were the pressures of being a teenager. Three months after her graduation from high school, Liz asked us if she could move out and start living with her friends. Her father and I told her that she could not move out, and we gave her our reasons. Liz was very upset and refused to talk to us. After a week she ran away to live with her friends anyway. Six months went by and Liz still had not come home. I was worried and blamed myself because I did not go after her.

"Liz came back home after about a year and a half, and she was quite ill. She had lost so much weight and had a deep dry cough and her skin was pale. I asked how long she had been sick, but she was too embarrassed to even look me in the eye. I started crying and asked what was wrong with her. Still, she did not say anything.

"I took her to the hospital, and the doctor said she had TB and gave me a prescription for her medicine. I knew that Liz had AIDS because of the way the doctor was talking to me. It was difficult for me to look at my daughter without crying. She looked so helpless and I could see the sadness on her face. It was too much for her to take. Three weeks later she died. To this day I cry for my daughter."

(For other interviews, see pages 13, 18, and 27.)

economic growth (406). HIV/AIDS is likely to lead to severe labor shortages in agriculture particularly . Some regions already are reporting diminished cultivation of food crops (162). Youth who lack experience as farmers are unlikely to know much about such key practices as irrigation, soil enhancement, and effective livestock management. They would be able to grow only what they could manage by themselves—implying a shift away from cash crops and toward subsistence farming (162). Combined with such anti-social practices as grabbing land from widows or children orphaned by HIV/AIDS, such trends could jeopardize food security in some regions—already a serious problem in many low-income countries (124).

Strategies That Work

Much has been learned from program experience about how to address HIV/AIDS successfully (see pp. 15–29):

- National strategic approaches, not just more projects, are essential (162).
- A supportive community facilitates individual behavior change (7, 155, 156, 184, 223, 264, 329).
- National leadership is key (162).
- AIDS education in schools can delay sexual debut and increase condom use (80, 327). Changing peer norms that encourage risky behavior is important (53, 190).
- A variety of mass media communication can reach young people effectively through entertainment programs and can lead to healthy behavior (182, 210, 323).
- Better access to condoms, including through social marketing and other private-sector sources, increases their use among youth (66, 71, 83, 95).
- Voluntary counseling, testing, and referral can lead some people to change their behavior to avoid transmitting HIV to others (385).
- Treatment of STIs can sharply reduce HIV transmission (96, 126, 227, 280).
- Parents and other adults can be important partners in HIV prevention (29, 191).
- Efforts to improve young people's social and economic status are a promising addition to other efforts (307).

What does not work. In addition to lessons learned about what works, researchers also have identified factors that can obstruct or diminish AIDS-prevention efforts (406):

- Focusing narrowly on health aspects of the epidemic without also considering other aspects, including education, living standards, and the broader implications for government and society;
- Failing to reach secondary audiences, such as parents, as well as people at risk of HIV infection and transmission;
- Denying information to young people that would help them protect themselves from HIV infection;
- Failing to address the root causes of vulnerability;
- Stigmatizing people infected with HIV/AIDS;
- Adopting plans and programs based on available funds or donor interests rather than on needs and proven strategies; and
- Designing programs for youth without involving youth themselves.

AIDS PREVENTION:

It is increasingly clear that youth must be at the center of AIDS prevention strategies, especially in hard-hit countries. Where the epidemic is less severe, addressing youth helps to ensure that they remain HIV-free. Experience suggests that, to deal with HIV/AIDS effectively, a broad alliance of organizations in public health, education, development, and public policy, working together with the private sector and NGOs, must be forged. A strategic framework focused on youth recognizes that the AIDS epidemic has many components and that no single approach can succeed alone.

The emphasis among the various elements of the strategy depends on the specific pattern of the HIV/AIDS epidemic in a country. For example, countries still at the beginning of the epidemic would focus more on educating young people about AIDS, while countries where HIV/AIDS is already widespread would emphasize curtailing its further spread and on mitigating its effects.

For a successful HIV/AIDS strategy, program responses should be based on formative research and needs assessments. As a strategy is carried out, monitoring and impact evaluation help planners determine what is working and what is not working, and whether resources are being well used. Evidence of the program's impact on young people's behavior is key, since behavior change is the goal of AIDS prevention programs (50).

Youth at the Center

Key Components of a Strategic Approach

Changing Behavior Through Education and Communication

- Promoting a choice of protective behaviors, including delayed sexual debut, abstinence, consistent condom use
- Youth participating in every aspect of programs, from needs assessment to delivering the message
- Using all opportunities, from classroom to community to television
- Entertaining while educating
- Developing risk-avoidance skills such as refusing sex, negotiating condom use
- Encouraging self-efficacy—feeling confident and able to avoid HIV

Developing Programs for Youth with Special Needs

- Street youth, orphans, sex workers, refugees, military
- Going where they are
- Meeting their immediate needs first

Mitigating Economic and Social Hardship

- Education in and out of school
- Job training and business skills development
- Microfinance and income-generation activities
- Food, housing, and childcare

Making Youth Services Friendly

- Friendly, empathic, discrete care providers
- Range of services and referrals, including for voluntary HIV counseling and testing, emotional health, social needs, substance abuse counseling
- Confidentiality always respected
- Convenient walk-in hours, minimal paperwork
- Low or no cost

Monitoring the Epidemic

- Age-specific prevalence and incidence of HIV and other STIs
- Monitoring health knowledge, attitudes, behavior
- Evaluating program impact

Creating an Enabling Environment

- National leaders publicly give the issue high priority, call for commitment
- Policy and law provide resources to youth programs, advance youth's right to health care and information, protect youth from discrimination
- Linking and coordinating organizations in all sectors

Strengthening Financial Commitment

- More funds for HIV/AIDS prevention overall
- A larger share for youth
- Commitments from private sector as well as government and international donors

Making Condoms Available

- Easy access, multiple outlets
- Free or very low cost
- No questions asked
- Emphasizing *consistent* use in vaginal, anal, and oral sex

Mobilizing Communities

- Involving parents, teachers, other adults
- Demonstrating concern and caring
- Advocacy on behalf of youth
- Setting good examples
- Challenging risky traditional practices

Taking Action Now

There is hope. Even in the countries worst affected by HIV/AIDS, the great majority of young people are not infected. Broad-based, committed strategies eventually can turn the tide, if they are developed at once, applied vigorously, and disseminated widely (50). AIDS-prevention strategies that focus on youth must be innovative, creative, and comprehensive. They must address both individual behavior that places young people at risk and the variety of social, economic, and cultural conditions that contribute to risky behavior.

A concerted strategy to end AIDS is well within the world's financial capacity. Of the annual funds needed to address AIDS in low- and middle-income countries —US$7 billion to US$10 billion (163)—only US$1.5 billion—less than 25% of the total need—has now been pledged (167). Worldwide, HIV/AIDS prevention is affordable, provided that donor nations have the political will to provide funding and provided that recipient countries take the epidemic seriously (16).

As overall spending on HIV/AIDS prevention increases, the share that goes to youth programs must increase even more. Partnerships between the public and private sectors can help. Private-sector firms are often willing to donate services, make in-kind contributions, or provide funding (26, 143).

While all countries can develop a strategic national plan to address HIV/AIDS among youth, there are no easy solutions. Governments, NGOs, communities, and the private sector must work together if the world is to prevent one generation after another from succumbing to the scourge of HIV/AIDS.

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